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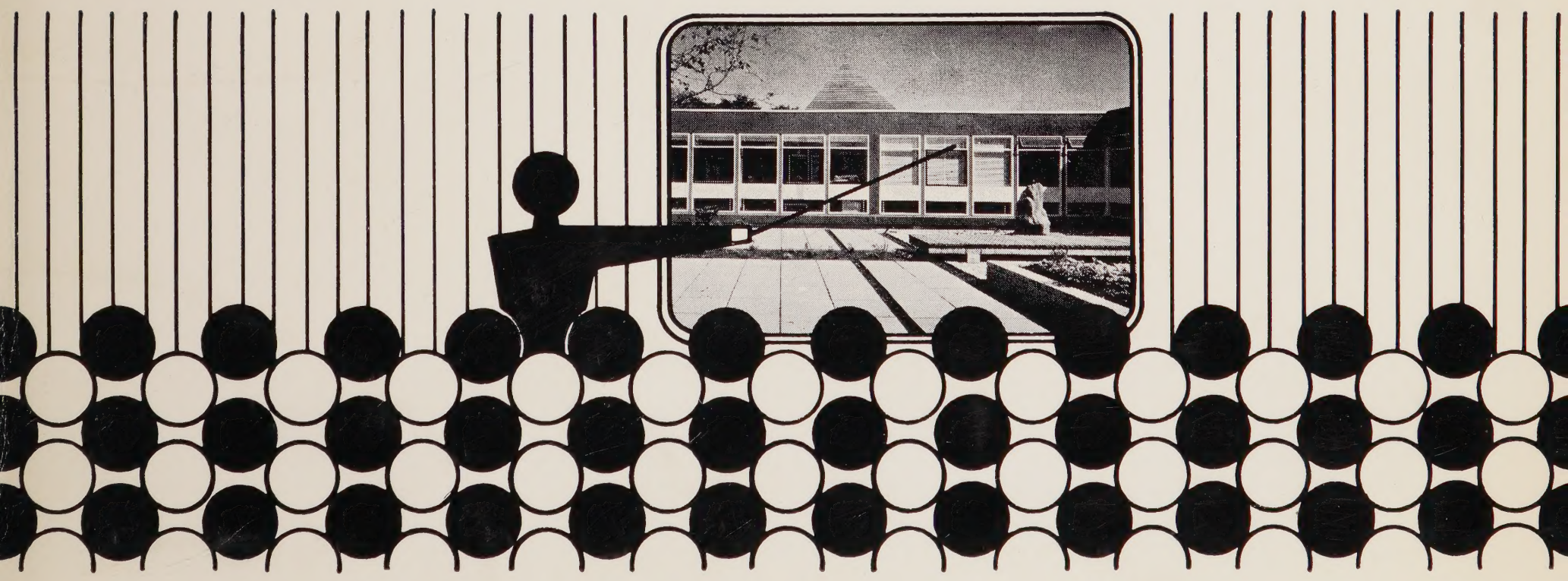

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COLLECTED CONFERENCE REPORTS 1969

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PREFACE

During 1969 eight major conferences have taken place at the Scottish Hospital Centre. Many have related to exhibitions and studies in progress at the Centre; all of them have given the opportunity for hospital service personnel, and others whose activities affect hospitals, to gain access to experience which might not otherwise be readily available to them. This opportunity given by conferences at the Centre for the crossing of organisational and professional divisions and the sharing of useful information and experience continues to be widely welcomed.

The purpose of conferences has varied from the reporting of new developments with general application to the exploration of views and practices on matters of topical interest. Speakers have been drawn from many disciplines and their contributions have led to wide ranging and sometimes provocative discussion. Full reports of the conferences have been prepared at the Centre and collected in this volume so that they may reach beyond the limited numbers who can meet in our conference room.

February, 1970.

A.R.H. BOTT
Director

CHAIRMEN

Chairmen of Conferences were drawn from the Council of Management of the Scottish Hospital Centre

Lady Baird	Mr. E.U.E. Elliott-Binns
Ex-Provost R.H. Banks	Mr. R.E.C. Johnson
Dr. J.H.F. Brotherston	Provost J.G. Robb
Dr. A.A. Cameron	Mrs. C.J. Tudhope

MAIN SPEAKERS

Laboratory Design: trends in user requirements - January 1969

Dr. I.S. Macdonald, Senior Medical Officer, Scottish Home and Health Department.
Professor S.C. Frazer, Department of Chemical Pathology, Foresterhill, Aberdeen.
Professor N.R. Grist, Regional Virus Laboratory, Ruchill Hospital, Glasgow.
Professor J.R. Greening, Department of Medical Physics, Royal Infirmary of Edinburgh.
Dr. Patricia Jacobs, Head of the Cyto-Genetics Section, Medical Research Council, Western General Hospital, Edinburgh.

Voluntary services in hospitals - February 1969

Mr. G.J. Murray, Assistant Secretary, Scottish Development Department.
Mrs. Janet Sleeman, Assistant Lecturer, Department of Social and Economic Research, University of Glasgow.
Mrs. M.A. Robb, Chairman, Welfare Sub-Committee, Scottish Branch, British Red Cross Society.
Miss M.I. Jaboor, Health and Hospitals' Organiser, Scottish Headquarters, W.R.V.S.
Mr. G.G. Savage, Secretary and Treasurer, Board of Management for Edinburgh Northern Hospitals.

Library services in hospitals - March 1969

Miss A.J. Bunch, Librarian, Scottish Hospital Centre.
Dr. B.H.R. Stack, Senior Registrar, Western General Hospital, Edinburgh.
Miss I.C.W. Fimister, Principal, Foresterhill College, Aberdeen.
Miss M.E. Cunningham, Principal, Occupational Therapy Training Centre, Astley Ainslie Hospital, Edinburgh.
Mr. Ross Mitchell, Deputy Secretary and Treasurer, East Fife Hospitals Board of Management.
Miss M.E. Going, Hospital and Welfare Librarian, Kent County Library.
Dr. A. Meneces, Medical Officer, Department of Health and Social Security.

Aids for disability - April 1969

Dr. Ian H. Stokoe, General Practitioner, Leith.
Miss D. Norton, Nursing Officer, Scottish Home and Health Department.
Dr. J. Simpson, Consultant in Physical Medicine, Director of the Physical Rehabilitation Unit, Uddingston.
Mr. W. Syme, Principal Welfare Officer, Corporation of Glasgow.
Mr. W.J. Findlay, Edinburgh and South-East Scotland Group Disablement Resettlement Officer, Department of Employment and Productivity.
Mr. M.J. Beese, Design and Equipment Officer, Scottish Hospital Centre.

Consultant activity review statistics - May 1969

Dr. M.A. Heasman, Co-Director, Research and Intelligence Unit, Scottish Home and Health Department.
Dr. J.D. Donnelly, Medical Officer, Research and Intelligence Unit, Scottish Home and Health Department.
Mr. Ian Laing, Records Officer, Western General Hospital, Edinburgh.
Mrs. Vera Carstairs, Senior Research Officer, Research and Intelligence Unit, Scottish Home and Health Department.
Professor A. Goldberg, Department of Medicine, Western Infirmary, Glasgow.
Dr. A.D. Beattie, Department of Medicine, Western Infirmary, Glasgow.
Dr. I. Kemp, Fellow in Medical Administration, Usher Institute, Edinburgh.
Dr. A. Cochrane, Medical Research Council, Cardiff.

Design for disability - May 1969

Dr. D.N. Ross, Physician in Charge, Department of Geriatric Medicine, Western Infirmary, Glasgow.
Mr. David Mercer, Student, University of Edinburgh.
Mr. Selwyn Goldsmith, Architect in private practice, London.
Mr. P.H. Spence, Partner with Messrs. Rogerson and Spence, Architects.
Mr. J.H. Penton, Partner with Messrs. Dennis E. Pugh Associates, Architects.

Detail design defects - September 1969

Mr. John Guest, Assistant Regional Architect, Wessex Regional Hospital Board.

Laundries and the long-stay patient - December 1969

Dr. W.A.J. Farndale, Principal Lecturer in Hospital Administration, City of Westminster College.
Mr. K.W. Wilson, Regional Engineer, Western Regional Hospital Board.
Mr. M.M. Bulloch, Area Laundry Manager, Victoria Hospital, Kirkcaldy.
Mrs. J.M. McCall, Matron, Cowglen Hospital, Glasgow.
Mr. D. McInnes, Secretary and Treasurer, Sunnyside Royal Hospital, Montrose.

OPENING SPEAKERS AT DISCUSSION SESSIONS

Mr. A.R.H. Bott, Senior Architect, Scottish Hospital Centre.

Mr. J.R.Y. Mutch, Secretary, Scottish Hospital Centre.

Miss E.E. Cumming, Librarian, Scottish Hospital Centre.

Dr. J. Williamson, Consultant in Geriatric Medicine, Eastern General Hospital, Edinburgh.

Professor T. Anderson, Department of Epidemiology and Preventive Medicine, Ruchill Hospital, Glasgow.

Dr. H.E. Seiler, Honorary Secretary of the Edinburgh Committee for the Co-ordination of Services for the Disabled.

Miss D. Norton, Nursing Officer, Scottish Home and Health Department.

Laboratory Design : trends in user requirements

Meeting at the Scottish Hospital Centre on Friday, 31st January, 1969.

For routine and research work at hospitals and in the Health Service as a whole, scientific investigations are assuming even greater importance. The scope of laboratory work has been extended by new diagnostic procedures. These and technological advances have influenced the type and the content of buildings in which changing activities can most suitably be housed.

MR. R.E.C. JOHNSON, Chairman of the Council of Management of the Scottish Hospital Centre and Secretary of the Scottish Home and Health Department took the Chair.

DR. I.S. MACDONALD, Senior Medical Officer, Scottish Home and Health Department noted that, in both quantitative and qualitative terms the speed of change affected trends in user requirements, and that there were difficulties in defining hospital laboratory services. The current concept of four branches - pathology, bacteriology, biochemistry and haematology - was probably too rigid when new specialties or sub-specialties were emerging within these disciplines - cytology, cyto-genetics and virology, as examples - or were derived from more than one branch e.g. immunology. More specialisation and a degree of inter-dependence cut across traditional boundaries. There was an increasing contribution by the physical sciences particularly from physics and from certain branches of engineering. A place and a career had to be found in the Hospital Service for the non-medical scientist if he was to make his maximum contribution to patient care.

The extremely rapid growth of hospital laboratory services was reflected in costs. These had increased at a substantially higher rate than National Health Service costs as a whole. In the last five years hospital current expenditure had risen by 56% and laboratory expenditure by 84%. In the first eighteen years of the National Health Service the total hospital running costs had risen by 280% but the expenditure on laboratories had increased by 2,340%. The expansion of services could also be gauged from the vast increase in the number of specimens examined or tests undertaken; the increase in staffing was also significant. In the last five years, for example, there had been a 23% increase in medical staff in laboratories, 40% increase in medical laboratory technicians, 58% increase in physicists, 64% in non-medical biochemists and 73% in physics technicians.

The future growth rate was open to question and it was noted that the main pressure on laboratory services from general practice was still to be experienced. It might also be asked whether the Hospital Service could sustain the recent rate of growth within its total budget.

It would be wrong to suggest a fixed ratio between expenditure on laboratory work and on other parts of the Service but the two could not be treated in isolation. Ideally the growth of the laboratory service should be determined on the basis of its contribution to patient care but this was impracticable. It seemed probable that the demand would increase and that the Hospital Service would continue to attempt to meet it; shortage of skilled manpower might, in fact, prove a more significant restraint than shortage of money.

The introduction and extension of automation was the most dramatic qualitative change in the work of laboratories. Till recently this had been largely confined to biochemistry and haematology. The scale of automation would increase in these specialties and extend to others, e.g. for pattern recognition applied to cells. Automation provided the means to handle ever increasing demands from clinicians and made it possible to think of new approaches to the use of laboratory facilities. This involved patient profiles and population screening and raised the question of the disposition of resources into the so-called "hot" and "cold" laboratories. Either an established need or the means to satisfy a potential demand might originate a process of development.

Although smaller in scale, the position was in some ways comparable to the industrial revolution and to the transition from handcrafts and cottage industries to highly mechanised processes. The industrial revolution not only created new means of production and new wealth, it also had profound effects on the social structure and modes of living. Automation in laboratories might involve counterparts of these changes. In relation to the industrial use of automation, the Chairman of Elliott-Automation, Sir Leon Bagrit, said in his 1964 Reith lectures:-

> "When, for instance, you have a substantial degree of automation you inevitably have a heavy investment in plant. To run that plant profitably we are probably going to need an increase in round-the-clock shift work. This may well mean that control engineers will have to take their leisure and their sleep at unusual times".

Should the Hospital Service be adopting this attitude to its heavy investments in plant in laboratories?

Automation had opened up new possibilities in screening large populations, both general and selected. Those contemplating a programme had had to think hard about what information was relevant, whether the limits of normality were established and if effective therapeutic action could be taken. Screening was not new but had tended hitherto to be a tedious laborious affair. Automation removed this limitation, but raised the need to face up to the responsibility of handling, interpreting and acting on the vast amount of information which could be produced about thousands upon thousands of individuals. Was this not a similar danger to the "blunderbuss" therapy about which medical students used to be warned? Sir Theodore Fox said:-

> "The more we know how to do things, the more we shall need to know just what we really want to do ... We shall

have to learn to refrain from doing things merely because we know how to do them".

The laboratory services today were producing new ideas and new possibilities at an unprecedented rate. These had to be evaluated in terms of "user requirements". Because of the time taken to implement planning decisions, there was a strong temptation to try to prophesy the requirements of buildings to be built in five or ten years time; on the other hand there was pressure not to be committed to a particular development as a better one may be round the corner. This was a familiar dilemma and it was particularly acute in laboratory services because of the scale and speed of developments.

PROFESSOR S.C. FRAZER, Department of Chemical Pathology, Foresterhill, Aberdeen, considered that "users" in relation to laboratory services should include both those who would work in the laboratory and those who would use the service. While laboratory workers in Aberdeen had been involved in the planning of a new combined university and hospital laboratory block - soon to be completed - it was nearly ten years since the broad outlines of the new building were decided. Basically designed for the late 1960s, it was already out of date in some respects; its potential virtues could not be discussed until evaluated in use.

The size and design of a new laboratory had to be decided at a very early planning stage because of procedures to control the spending of public funds. All too often the early planning consisted of "Think of a number, which was the number of square feet the potential user occupied at present; multiply this by a factor of three or four or more, then think up a range of room sizes and functions until the total area reached the overall size already decided". With this sort of planning it was not surprising that those who controlled the purse strings had a built-in antipathy to any space labelled "spare" and to regard this as target No.1 when proposing the inevitable economies. In a new building the amount of reserve space tended to measure the guile of the planners rather than foresight by the authorities. If only through the operation of one of the corollaries to Parkinson's Law, the picture would have changed completely within ten years of opening. Within twenty years a new building would be demanded to relieve hopeless overcrowding. Whatever the reason, laboratory specialties ran out of space on approximately a twenty-year cycle.

In applied human biochemistry the study of past trends was of little value as a guide to future needs. The impact on medical practice of biological and physical sciences had hardly begun to be felt and the rapid development of information theory, which would have a major impact on diagnostic processes and the handling of records, was poorly understood in hospital circles. "Computer-aided" diagnostic processes, for example, seemed likely to lead to substantially increased demands for quantitative information and to more predictable and precisely defined requirements which the ancillary services would be expected to meet. The procedures of the 1980s could only be guessed. Much of the work may have been transferred to the bedside and take the form of black boxes linked to patients by tubes and wires. It seemed reasonably certain, however, that large central laboratories would continue to be required if only because of the cost and low utilisation of bedside instrumentation.

It was doubtful whether a clinical biochemistry laboratory, as a separate entity, would have a place in the 1980s. The present categories of hospital laboratory work had emerged because technical skills tended to fall into fairly definite groups and this tended to promote the career and status aspirations of laboratory workers. In spite of the forces leading to diversification, the boundaries of the traditional laboratory subjects had now become blurred. In the field of immunology, for example, techniques were used equally by biochemists, haematologists, pathologists, and bacteriologists. The laboratory of the 1980s was more likely to have a section designated "immunology" or "enzymology" than to have a floor labelled "clinical biochemistry". The return of general purpose departments of clinical pathology with a clinical pathologist in overall charge, was unlikely. The pattern outlined recently by the Zuckerman Committee with a hospital scientific service was the kind of grouping which should now be planned. Trends in the practice of clinical biochemistry were only a part of a more general pattern of administrative and technical change but over a ten-year span some predictions might be attempted.

First was the possible continuation of the trend towards a wider range and more frequent requesting of biochemical analyses than was obviously needed for diagnosis or treatment. It was this trend which had led to a doubling of work-loads over $3\frac{1}{2}$ to 5 years. While it showed little sign of slackening at present, the curve might flatten within the next decade. Because of the momentum of this growth and a greater range of tests, a work-load increase of four times might be assumed within the next ten years with a slower growth thereafter. This did not mean, however, that laboratories for clinical chemistry had to increase four times in size or in staff provided the centralising and speeding of machines was continued together with the scaling down of the sizes of samples and of instruments. In Aberdeen the Department used about twice the area for hospital laboratory work than it did in 1938 but was handling more than seventy times the analytical load: the staff had grown approximately four-fold. Further mechanisation was certain though the needs of new machines in terms of space and facilities could only be guessed.

A second change consisted in the supplementation of organic chemical analyses by work of a more biological character. This affected instrument requirements and costs rather than laboratory size. Marginally more space was required and some structural features including built-in cold storage and cold laboratories, more lavish provision of bench services particularly power points, rather than numerous fume cupboards and piped steam.

A further trend which had design implications outside the laboratory proper was towards the 24-hour biochemical monitoring of the metabolic state of very ill patients e.g. after multiple injuries, poisoning, open-heart surgery and for respiratory distress. This requirement did not confine itself to laboratory working hours and only limited delays could be tolerated. The grouping of gravely ill patients requiring intensive therapy would make on-the-spot laboratories and sleeping accommodation for staff more practicable.

Another change in the pattern of work would involve the concept of the "biochemical profile". This consisted in the analysis of

blood samples from a standard range of perhaps twelve constituents not adjusted to the individual patient's presumed needs. There were arguments for and against this pattern of screening, but it was logical and probably useful if applied to each new out-patient and in-patient irrespective of the reasons for examination or admission. It could also be extended to patients seen in general practice or at health centres.

It was difficult to judge the cost-effectiveness of this type of screening, nevertheless, it would probably become standard practice within ten years. It should be met by the establishment of the so-called "cold" laboratories designed specifically to carry out by machine the standard limited range of analyses on each sample received and to do so without any element of priority handling. Such a laboratory could serve many hospitals and practices. It need not even be in the same town as the patient but should be at a convenient site for the transport of specimens. With present trends in large multi-channel instruments, one such centre might serve a population of a million or more. The proposed existence of "cold" laboratories implied that each district or teaching hospital would have a "hot" laboratory for the requirements not met by the bedside laboratories in special care areas or the "cold" unit. The "hot" laboratory would handle urgent and semi-urgent work and carry out non-urgent requests outside the range of the screening laboratory.

A further continuing trend was the need for sophisticated and expensive investigations on a very small number of patients which the typical "hot" laboratory would not be able to provide. At present this problem was largely in the field of the more elaborate endocrine and immunological assays. It seemed inevitable that such work should be sent to a few "national" laboratories partly for economic reasons and partly to ensure good standards of work. There was no reason why such laboratories should not be sited in relation to centres of teaching and appropriate research activity, and be financed on a non-regional basis. They should be alongside "hot" rather than "cold" teaching hospital laboratories because of the type of staff and other resources required. A distribution of this kind was preferable to having one national super-laboratory in which all such special work was done.

Out-patient departments raised a further problem in relation to laboratory developments. There were obvious advantages in having laboratory information available on the day of consultation and one way in which this could be arranged was by having a substantial laboratory installation in the out-patient department. A part-service on these lines was already provided in some units for diabetic clinics but to provide a comparable high-speed service covering a full range of analyses was bound to be costly. In some case the regional "cold" laboratory might be sited at the out-patient area; another possibility was to have blood samples sent for screening analysis in advance of the out-patient appointment.

The fragmentation of services when convenience as opposed to clinical necessity was the basic reason for a laboratory being required in a particular place, was disturbing. The state of a certain overseas hospital in which fifteen separate biochemical laboratories existed because each physician and surgeon declared that his patients could not be adequately served by a central laboratory, had to be avoided.

There were trends in relation to information collection, processing, reporting and storage in clinical chemistry laboratories. Analytical data could now be collected direct from the instruments which generated them without intervening human recording, by data acquisition equipment processed by computer and converted directly into reports for wards. The cost could be partly offset by savings in time and manpower and elimination of human error. As a bonus the laboratory information might be fed directly into the central records storage system and be used for analytical quality control in the laboratory as well as for cumulative laboratory records and statistical purposes. This would require a small to medium on-line digital computer. It was difficult to see a successful system operating off-line through a central hospital computer; in theory this was possible but in practice it would introduce unacceptable limitations on the system of operation and would probably be expensive both in central requirements and peripheral machinery. A small on-line installation within the laboratory complex but linked to a line printer and dealing almost exclusively with laboratory data - processing, reporting and storage - seemed eminently possible and not too costly with present-day computer technology. It would certainly be unwise to design the laboratories of the future without making full provision for the inclusion of computing equipment.

The number of square feet required in a laboratory to serve a particular number of hospital beds or a given population could not be gauged without taking into account the type of hospital, its staffing structure, the backing resources in the Region and factors such as the pattern of mechanisation which was contemplated. Those who pretended to know all the answers were either rogues or fools; plausibility when planning could easily become penitence on commissioning.

PROFESSOR N.R. GRIST, Regional Virus Laboratory, Ruchill Hospital, Glasgow, outlined some salient points for discussion. These rested on his experience in microbiology and virology and on visits to laboratories in the United Kingdom and overseas. They were also conditioned by his laboratory being housed in a much modified ward block built in 1898. To current questions of laboratory practice this added the problems of dry rot and of steam rendering chipboard into the consistency of porridge.

Flexibility

At the planning stage it was a waste of time and effort to make over-elaborate predictions. It was impossible to state at any given time exactly and in detail the range of work which the new building would be required to accommodate. Basic simplicity of design with margins of space to facilitate modification and extension were important aims. A ground floor location had many advantages in this connection and it was useful for laboratory space to be capable of easy demolition to allow reconstruction to meet some future need.

Open plans

An element of "open" planning was useful. At the same time, certain definable requirements for wall-separation existed and

should be recognised. These included certain hot, noisy, dirty or dangerous processes and the need for privacy and quiet for key members of the staff and the secretariat. Special environments could in some instances be provided by the use of sterile and safety cabinets and this removed the need for special working conditions in a whole room and saved the ventilating engineers from attempting what they could not in practice achieve under normal economic restrictions.

Mechanical ventilation

It was important to bear in mind that heat was generated in a micro-biological laboratory. A clean, comfortable environment was important but where a temperature of 70° to 75° F. was present first thing in the morning the laboratory soon became much too hot. This was due to the effect of machines, people, bunsen burners and the solar gain which could be significant with large areas of glazing. If mechanically ventilated premises were necessary, the selective removal of heat and fumes might be achieved in well-designed "fume-cupboards". It was preferable for windows to be openable and, if possible, for ceilings to be reasonably high. In general, refrigeration or cooling was more important than heating in the maintenance of satisfactory working conditions.

Safety

This involved the safety of staff from such hazards as fire and the effects of the spillage of fluids or the breaking of laboratory equipment. It also concerned the safety of specimens from the danger of contamination. In this connection, the disposal of infected materials was important; this should be via the autoclave to the incinerator or a suitable bin, or, via a sink grinder.

Incubators

One or more rooms were likely to be required for incubation. A "walk-in" type was useful and these could be obtained in modular, prefabricated units. In addition, small individual incubators were necessary in areas where special conditions of temperature and environment were important.

Cold rooms

In addition to working refrigerators in the laboratory proper, one or more cold rooms were essential and greatly improved patterns of deep-freeze were now available. Liquid nitrogen was useful; it required safe storage provision.

Special equipment

This included items such as homogenisers and ultrasonic centrifuges; these might require to be in separate rooms because of noise and for safety. Ultra-violet fluorescent microscopy was increasing in importance; it required a dim area of lighting. The electron microscope had become a normal item of equipment in virology; it required a suitable suite of rooms.

In general, automation and mechanisation had developed slowly in microbiology compared with biochemistry since the machines were as yet inadequately versatile. There were, at present, only a few

virological tests of wide practical applicability. The main range of laboratory tests included a variety of different kinds of procedure, many of them still changing, which required skilled personal attention for evaluation both at technical and clinical level. They could lead to a series of related or consequential procedures carried out on the original specimen over weeks or months. For these reasons, and except for a segment of routine serology, most current work was not suitable for automation.

Washing and preparation

The main trend was an increased use of disposables and some glassware was disposed of after being employed in certain tests. There were also useful developments in plastic materials. The design of washing machines was improving though ultrasonic cleaning remained expensive. Glassware for re-use had to be washed, dried, inspected - using a directional beam of light - assembled, sterilised in an autoclave, and stored. The water used in the laboratory must be clean and at an even pressure. Distilled and de-ionised water was required.

Records

Many changes were occurring in the field of records and reports, their analysis and storage. There had been a marked transition from the days of intelligence from notification towards the surveillance of infecting organisms. More sophisticated methods of record handling would be required. The intelligent and economical management of communicable disease problems, many of which changed in character but did not just disappear, necessitated the co-ordination of information. The old-fashioned system of "specimen received - tested - reported - out - end of matter" was wasteful and lost valuable information. Modern surveillance rested essentially on laboratory data and for this reason future routine microbiological laboratories should have simple information-handling facilities.

Animal houses

The detailed requirements of animal accommodation were important. An animal house was not necessary at each microbiological laboratory but access to this facility was essential.

Training and research

The planning of laboratories must take into account the increasing need to train technicians, senior registrars, microbiologists and post-graduate students. Again, where clinical practice was extending to new fields, activities such as tissue transplantation were developed and cyto-toxic drugs used, additional work would fall on the microbiological laboratory. Such work might require the adaptation of a laboratory area to suit the particular needs of research and training.

PROFESSOR J.R. GREENING, Department of Medical Physics, Royal Infirmary of Edinburgh, stressed that the primary user requirement was a laboratory. The user was almost certainly more interested in having a laboratory at all than in having special facilities. The primary trend should be away from design and towards actual construction. The National Health Service and the Universities were in a state of severe financial stringency. If in the near future anything other than castles in the air were to be built, the financial aspects had to be kept clearly in mind. It might be necessary to modify ideas on laboratory provision if any new units were to be obtained; nothing would affect the laboratories of the future as much as money.

The essential functions of a laboratory were:-

(1) To provide a controlled environment in which to work, i.e. to keep out wind and rain and to give a pleasant temperature, suitable lighting and adequate air changes. There was sometimes a need to control noise.

(2) To provide special services, electricity, water, gas, etc.

(3) To provide bench space and storage facilities.

Other factors were relevant but trivial compared with the main essentials; they did not affect design.

It was largely a matter for architects and their colleagues to ensure that the maximum useful area was provided at minimum cost. They had the additional responsibility of trying to make the building aesthetically pleasing without adding appreciably to the cost. It was important, however, that users tried objectively to ensure that the things they requested were essential and not expensive items which gave only minor advantages. There was a need to aim at simplicity and adaptability and for the immediate design to look no further ahead than could reasonably be seen. As a rule, the more "special" the requirement, the greater the delay.

Additional interior walls increased costs; to what extent, therefore, were open area laboratories possible? There was no doubt that some aspects of medical physics could suitably be housed in large open laboratories - electronics work was one such aspect. Many would welcome a trend back towards natural lighting. This would save money on lighting and would, in addition, make natural ventilation possible and save on ventilation plant. There were substantial heating and ventilation problems in interior rooms; these must either be met or avoided.

If modular construction was appreciably cheaper than individual chosen room sizes and if multi-storey buildings in which all floors were almost identical was less expensive than different floor arrangements, these would be substantial arguments for grouping different laboratory disciplines and for those disciplines to agree common laboratory sizes and layouts. If common laboratory sizes were accepted, an additional advantage would be that the accommodation would have far greater flexibility for future use.

Much of the work in medical physics required few special services. It required no gas, little if any water, few sinks or drains, but it needed a multitude of electrical outlets - say every 18" of bench run. Radioisotope work required more segregation to control any hazard, more water, sinks, drains and fume cupboards. These requirements were, however, no more than those of normal chemical laboratories with impervious surfaces for walls, floors and benches.

The trend towards greater use of electronic data processing was evident in medical physics as in other disciplines. This was facilitated by the provision of cables between the points of acquisition of data and of processing, and possibly also by further cables to the points of subsequent use of the data. It was almost certainly more economic to build in such cables at the time of initial construction than to add them at a later date.

DR. PATRICIA JACOBS, Head of the Cyto-Genetics Section, Medical Research Council, Western General Hospital, Edinburgh, noted that a new discipline had the advantage of not being tied to tradition. Belonging to neither the National Health Service or a University, the unit had one new laboratory and would shortly have another.

The basic techniques of cyto-genetics could be undertaken without highly specialised laboratory accommodation. The growing, processing and examining of cells - leucocytes from peripheral blood and fibroblasts from solid tissues, in particular - needed standard gas, water and electrical supplies with auxiliary areas for media handling, washing-up, sterilisation and a small tissue culture room with surfaces which were easily kept clean. An ultra-violet light source was required and an air supply separate from that of the rest of the new building was preferable.

The microscopic examination of chromosomes was an extremely skilled but a tedious process which ideally required that each scientist or technician should be provided with an area separate from but adjacent to the main laboratory space. The small isolated areas for concentrated microscopy should be pleasantly designed and protected from noise and vibration. A window with a view was valuable and the room should be shielded from direct sunlight.

The changes which would affect the field of human cyto-genetics were basically the same as for other laboratory disciplines. They included automation and a much greater through-put of specimens which would be handled in a few well-equipped centres. This was facilitated by the fact that no transport problem arose in connection with specimens. There would also be a much greater use of disposable equipment. This would mean a decrease in the area necessary for washing-up and sterilisation but an increase in storage space and in the disposal requirements of waste material.

The most tedious and time-consuming part of the technique was the microscopic examination of dividing cells and, as it took

over a year to train a person to do this with a high degree of proficiency, attempts were being made to automate the whole process. This included the selection of suitable dividing cells and the analysis of the chromosomes of these cells. Sufficient progress had been made in the development of this technique to demonstrate the desirability of computer and scanner facilities in any future major cyto-genetics department. These facilities would be included in the new laboratory now being planned and to be built in Edinburgh. Features of this laboratory would also be vibration screening, temperature control, a large open planned laboratory area with a minimum of built-in furniture and maximum flexibility of services. There would also be rooms for individual scientists and technicians. It was important that the senior staff should each have a "home", which need not be large, where they could think. It should also be possible for staff to arrange their own desks and furniture as they wished.

The step limiting the rate of work in the present system was microscopy but once this was automated, the preparative stages would require examination to avoid their becoming in turn the limiting step in the total process. This could be done either by streamlining and replicating the present manual method with the increased use of semi-automatic aids such as slide-staining machines and automatic reagent delivery devices, or by complete automation of the preparative techniques. The former course had already been started but this did not necessarily exclude the possibility of the latter.

There was no reason to doubt that supplies of samples for investigation would always be more than adequate and with a greatly increased through-put it would be important to maintain a uniformly high standard in the growth and processing of cells. This implied a possible requirement for instrumentation capable of measuring and recording and possibly controlling such parameters as the pH, temperature and humidity.

Cyto-genetics as a branch of laboratory practice was in a stage of transition and requirements for even the relatively near future could not be precisely defined. Flexibility in laboratory design was therefore imperative and there was a good case for open-planned laboratories with only specialised areas such as hot rooms, cold rooms, sterile rooms and office provision being enclosed by walls. To this end, such items as free-standing, readily movable bench units should be employed to the maximum extent consistent with the requirements for linking to services. It might even be possible to envisage movable bench units complete with piping, wiring, drainage etc., which could be plugged in to inlet/outlet modules located round the walls and in the floors of large empty rooms. This would be the ideal laboratory of the future.

DISCUSSION

MR. A.R.H. BOTT, Senior Architect at the Scottish Hospital Centre and Director designate, opened the discussion. He drew attention to changes in basic questions determining laboratory spaces and the way in which the criterion of the bench-workers' requirement was being reviewed and replaced by space defined on a machine-bench basis.

The implications of full machine usage with lessened accessibility as

against easy availability but a low level of use, required review and decision in the briefing stage. Again, it was important to establish whether different space standards were required in laboratories for routine and reference work and those undertaking teaching and research. It was also for decision how far modular fittings could be employed and whether research laboratories required a definably larger amount of "clear space" for the assembly of research "rigs".

Questions of location also required clarification and this entailed the possible division of laboratories into "cold" and "hot" categories together with relatively new questions such as the need for satellite services for intensive therapy units and possibly in out-patient departments and health centres.

More feed-back from users on aspects such as fixtures and finishes, bench and wall surfaces, flooring etc. was urgently required together with evaluation of the advantages or otherwise of the use of cheaper specifications on the assumption of more rapid replacement.

In the subsequent discussion the following were the main points to emerge:-

(1) Less design: more construction

There was general agreement that design work which extended over many years not only dissipated the users' interest but increased the likelihood of the layout proving unsuitable. There was some discussion on the degree to which the immediate user should be allowed access to the architect to suggest revisions in the late design stages. If the architect's brief was fully detailed in relation to functional requirements, the need for revised guidance at the later stages of design should be minimised. One example was given in which direct consultation between the prospective user and the designer had accelerated progress but it was the experience of others that these "conversations could go on ad nauseam". It seemed clear that in laboratories, as with other areas of hospital planning, a definite cut-off point was vital if sustained progress was to be achieved. Where this was deferred unduly and where changes of mind or of personnel were allowed to influence the final design or, indeed, the building process, significant delays and additional expense were likely to be incurred.

(2) Flexibility and extendability

While the word "flexibility" was frequently used, its precise implications were less clear. There was a distinction between flexibility in use and the adaptability which might be rendered more or less easy by different forms of construction. Again, "extendability" referred either to provision for the building to be enlarged - using possibly an adjacent car park and moving the car park to an alternative site - or spreading a function into adjacent accommodation the

primary use of which could be transferred elsewhere by a process of decanting.

It was noted that where flexibility in use entailed the highest level of servicing for all laboratory areas, this would be expensive. It was clearly important that potential changes in a laboratory block, whether of use or of shape, should be linked with detailed consideration of service runs. It was also noted that if "flexibility" included the use of cheaper materials or finishes on the assumption that these would be replaced, or that adaptability was envisaged from the outset, these advantages could not be realised unless money was assured at the time the changes were required. While most agreed that large, new, cheap, simple laboratory buildings were required and that large concrete monolithic units were undesirable, it was important to recognise that over-simplified units in temporary materials might prove expensive in the long run as to all intents and purposes they would be regarded as permanent. Prefabricated modular units might give a quicker result and show a gain in time-costs but this would only be in proportion to the use of a sufficiently large number of units in any one or in a related series of projects.

The provision of demountable and easily adjustable fitments was supported and illustrations were given of the fact that these could be strong and free from vibration. Flexibility of this kind could play an important part in the "shake down" period immediately after a new unit was commissioned.

(3) Computers

The suggestion was made that "time-shared" computing might be adequate and was many times less expensive. Others considered that for larger laboratory units "on-line" facilities were essential. Much depended on the local situation and the distance factor. "Time-sharing" might not be easy to arrange in relation to the reception pattern of work at a laboratory and to fit the requirements of reporting to ward units. It seemed clear, however, that a large, high-speed processing unit would not be required in a laboratory even if it was "fed" by several hospital or general practice sources.

(4) Heating and ventilation

Examples of over-heating in laboratories were quoted and the need for cooling stressed. An assumed veto on air-conditioning was noted and it appeared that there was a poor level of communication on these aspects of requirement and provision between the user, the architect and the engineer in particular schemes. It was noted that much mechanical ventilation equipment was misunderstood and misused.

Support was given to the provision of openable windows and locally controlled radiators. Others suggested that open windows led to the ingress of dust and the scattering of papers by wind. Reliance on opening windows might also imply an extensive amount of outside walling. The solar shielding of windows was advocated and it was noted that easy access to openable windows was essential, i.e. they should not be blocked by fixed benching.

(5) The use of space

As most types of laboratory had common features, it was suggested that an indeterminate building form could allow for growth and the necessary flexibility, i.e. an in-built versatility to meet the requirements of a re-user in the same area. While open space units might be satisfactory for routine work they might raise difficulties for research workers using equipment that required to be dust-free or procedures which held an element of risk, e.g. the use of lasers. It was accepted that a mixture of open and closed spaces on a laboratory floor was practicable. In one research laboratory a central corridor had been extended to 16 feet to allow it to be used as a work space; this was proving satisfactory. It was important, however, to have sufficient individual rooms as there could be a significant loss of efficiency if workers were distracted by noise.

It was better not to embed laboratory provision in, for example, a large ward block and considered important to allow "expandability" to at least one-third of the original size of the laboratory building and during a lifetime of say, twenty years. Part of the need for expanded provision lay in the steady increase in laboratory work; it was also affected by the fact that it was difficult to discard all tests and procedures for which an alternative might be developed.

(6) Out-patient departments and Health Centres

An increasing work-load from general practitioners at health centres could be anticipated and on-demand "screening" tests were likely to become an increasing feature of out-patient laboratory work. At present many patients admitted to hospital at high cost might be diagnosed and treated as out-patients if the requisite tests were possible on this basis. High-speed analysers were now capable, however, of doing much more work than could be provided at any one out-patient department or health centre. Even a smaller unit might have greater potential than the work from an out-patient department yet it would require to be fully serviced and staffed. This might be appropriate theoretically but could prove less easy in practice.

Another aspect was that secondary benefits accrued if the results of laboratory tests could be immediately available during one visit to an out-patient department. This saved patients' and general practitioners' time; it would avoid subsequent visits, lessen the need for arrangements such as baby-sitters and reduce the amount of worry entailed. Equally, however, these defects could be avoided if specimens were sent for analysis in advance of the patient's visit. Alternatively, if a patient did not require admission, the results of tests could be forwarded to the general practitioner with the minimum of delay. The advantages of taking paediatric patients to laboratories for tests were represented.

It was necessary, however, to plan the laboratory space so that this could be undertaken in a suitable environment and with nursing attendance.

(7) In-service training

Attention was drawn to changes in the curriculum of training for medical laboratory technicians. This had been largely vocational with the accent on repetitive testing but stress was now laid, during training, on principles of laboratory work rather than actual practice. This change required that the central authority should make provision for the practical element of in-service training.

(8) Furniture, equipment, etc.

It was suggested that the current system of scheduling and classifying furniture and equipment required simplification. It had become dominated by costing and contract requirements. This had removed much of the possibility of incorporating the new thinking which was sure to emerge when a major laboratory was being planned. Modular furniture was satisfactory but again it must allow for new items to be incorporated.

It was possible that while questions affecting the basic design would have to be decided at one stage, it would be useful for decisions concerning movable equipment to be the subject of discussion over a longer period before finality had to be reached.

(9) Fume cupboards

Conflicting advice had been received by architects and engineers on the trends in this connection. It was noted that the change from organic to biochemistry had led to less acid fumes being liberated. This, together with the use of the equipment such as water pumps had led to the reduction in the need for fume cupboards. In bacteriology, isolation cabinets were required, mainly for tuberculosis cultures, but the traditional fume cupboard was not necessary. A locally made isolation unit including an absolute filter and the necessary high-capacity fan was illustrated in relation to bacteriology. It had cost just over £100.

(10) Shared usage

Some "blurring" of the edges between disciplines was reported and recognised as an important trend. If expensive equipment and space were to be fully used on a shared basis, the "fusing" of departments might be more actively promoted.

Scottish Hospital Centre
January, 1969.

Voluntary services in hospitals

Meeting at the Scottish Hospital Centre on Friday, 21st February, 1969.

The pattern of voluntary work in hospitals varies widely. The need for voluntary service exists and a large number of organisations together with numerous individual volunteers have services to offer. The problem in achieving the maximum benefit for patients is largely one of organisation. Many facets of the problem were raised and discussed at this conference.

EX-PROVOST R.H. BANKS took the Chair.

MR. G.J. MURRAY, Assistant Secretary, Scottish Development Department, spoke from experience in 1966/67 when, as a Research Fellow at the University of Glasgow, he undertook a study of voluntary organisations in the social welfare field throughout the United Kingdom.

He noted that, although they might enjoy an even greater measure of general goodwill, hospitals and their Boards of Management were subject to the same pressures of manpower and cash as any public authority undertaking welfare functions in the population. Like other public services their work had been initiated and carried on for many years by voluntary effort. Now, however, the need for quick ad hoc expedience in any given situation tended to overshadow more philosophical considerations of the pattern of voluntary service. In studying the issues involved it was important to search for basic principles whether concerned with hospitals, local authorities or in the community at large.

Value-analysis was important in assessing the functions which any organisation was trying to fulfil and the provision of voluntary services was no exception. It should be considered whether these functions were correct, whether more should be added, and how, in fact, the work ought to be carried out. A review of this kind would require to take possible future developments into account. If, for example, Area Health Boards were established, a larger role might become apparent for voluntary services. For most organisations, however, value-analysis was a long term ideal. In practical terms the tendency was to review the "good things" that comparable organisations did. It was, in fact, remarkable how many ideas and approaches voluntary organisations produced in any public service with which they were connected. They might be performing a score of different services for one local authority while for another the particular groups, inspired to new thinking by local initiatives, might have devised quite different approaches.

In an ideal world the administrator would consider the cost benefit of using voluntary organisations as opposed to employing staff. He would assess whether greater benefits would be obtained for the same cost by using voluntary services or, alternatively, if a certain job

could be done as well but more cheaply by voluntary help. On the other hand, the question might be whether particular jobs would get done at all without voluntary effort.

Role of voluntary organisations

Voluntary services, and the voluntary organisations that generally provided them, could bring:-

(a) Assistance to specialists by relieving them of work such as typing, clerical duties and other routine jobs.

(b) Manpower in quantity for personal services such as home visiting, hospital visiting, hospital canteens, book trolleys, etc.

(c) Financial assistance, goods and resources of various kinds. For example, the national network of the bigger organisations operated transport services which had important implications for hospitals.

(d) Community participation through various agencies, civic trusts, ratepayers' associations or specialised associations where members of the public involved themselves with, e.g. the heavily disabled. This was not only beneficial to the individuals helped but increased the sensitivity of communication and participation between organisations and the communities they sought to serve.

Problems

Various difficulties might be postulated. These included the weakness which inevitably accompanied voluntary service without a paid and properly evaluated establishment to carry out the work. There might be inadequate attention to management and a lack of finance, though the hospital service was more fortunate than most as strong organisations were working in that field. There were problems in relation to unsuitable volunteers, rivalry between organisations and sometimes the unreliability which could arise when a job was not the first claim on a person's time. Voluntary services were capable of development and were increasing. This made the evaluation of problems more necessary. If voluntary services were thought to be good they should be extended; if not, they should either be improved or cut out.

Organisation and development

A key question in expanding and developing voluntary services was whether to rely on volunteers or voluntary organisations. Local government provided services through a variety of departments and for voluntary work used organisations rather than individuals. This enabled the authority to benefit from the organisations' resources in recruitment, training and finance. The new social work departments of local authorities might seek to bring in more individual volunteers as well as organisations. This would allow more direct

control over recruitment and deployment as persons could be employed for specific ad hoc jobs. These were not real alternatives, however, unless an authority was prepared to have someone to carry out the organisation of individual volunteers. In the hospital context this raised the question of whether there should be a full-time organiser. Here again the philosophy should come first and a full-time organiser would only be appointed if there was a firm belief in the development of voluntary services.

Relationships

Communications were all-important in maintaining relationships between any public authority and voluntary services and included consultation. A complaint about local authorities by voluntary organisations had been that they were only brought in when some particular activity was specifically wanted. This raised suspicion. Regular consultation and clear definition of responsibilities were essential if effective control was to be established. Consultation was a form of recognition and recognition was necessary in encouraging the work of volunteers. Relevant questions were whether the voluntary organisation was an agent with powers to carry out work in the way it thought best or was it simply to provide bodies for clearly laid down tasks? Again, who was in control over individuals?

Investment

Investment by a public authority in a voluntary body depended on the scale of help being given. It might be in the form of a cash contribution towards the work done by the organisation - which, in turn, might encourage the development of services - or be indirect by the provision of accommodation, equipment, typewriters, uniforms, etc. Such investment might repay itself and more. It could ensure a good service which cost less than its implementation by the hospital itself. Voluntary services could add financial and manpower resources and the personal touch but they should not be treated as a cheap alternative and exigencies of the moment should not prevent a build-up of these services. Assistance was being given in several fields to improved management. Sporting organisations, for example, received grants from the Scottish Education Department to employ secretaries on a full-time basis. For welfare functions it would pay for voluntary organisations to be treated similarly though in hospitals this type of approach would be more likely to lead to the appointment of full-time organisers.

Co-ordination

Bodies existed in certain fields to co-ordinate the work of voluntary organisations at national level. One, for example, advised local authorities on appropriate rates they might pay in connection with children's homes. There might be a case for some kind of advisory committee composed of persons from the Association of Scottish Hospital Boards of Management and the heads of voluntary organisations in hospitals to work out questions of policy. These would relate to areas of work which could be developed, the advisability of appointment of full-time organisers - possibly related to a number of hospitals or even at Board of Management level - machinery for consultation and recommendations about financial or indirect help to organisations. There was a need for continuing top-level advice and consideration on how voluntary services in hospitals might develop.

Points from a study of voluntary services by MRS. JANET SLEEMAN, Assistant Lecturer, Department of Social and Economic Research, University of Glasgow, were given in her absence by Mr. G.J. Murray. This study had been undertaken in hospitals as they presented a well-defined area of operations and illustrated at a local level the relationship between voluntary organisations and a public authority.

Seven hospitals, two general, a maternity, a geriatric, a children's, a mental illness and a mental deficiency unit were selected for study and the field work had been done in 1967. Using open-ended questionnaires, thirty-five interviews were held with group secretaries, senior members of hospital staff, chaplains and representatives of voluntary organisations. Although the sample was small, important and interesting points had emerged. An attempt had been made to assess whether the voluntary efforts were adequate to meet the hospitals' present needs and if the voluntary bodies encountered problems in discharging their hospital commitments. Steps taken by these hospitals in the context of government policies concerning voluntary activity were also reviewed.

While the all-embracing aim of the National Health Service Act seemed to indicate that little would remain for voluntary organisations to do in the hospital field, voluntary work was officially encouraged. During the past twenty years there had been an increase both in the numbers and in the activities of voluntary bodies. The list of voluntary organisations connected with hospital work was large and the scope of their activities varied widely. Some services applied before a patient was admitted or after discharge from hospital; others concerned patients, visitors and staff within the hospital. The latter came under three broad headings:-

(a) Gifts and donations (e.g. television sets).

(b) General services (e.g. tea-bars).

(c) Personal services to patients (e.g. visiting).

The range of service or other activity was wide. As regards tea-bars, libraries and trolley shops, the five non-mental hospitals relied to a large extent on voluntary help and there appeared to be room for both the voluntary organisation and paid contractor. The number of individual voluntary workers in the hospitals surveyed was relatively small. None of the hospitals had attempted to recruit individual volunteers. On approaching a hospital they were frequently advised to join a voluntary organisation.

Enquiries directed to the hospital staff and to voluntary organisations led to the conclusion that in five of the seven hospitals voluntary support was considered adequate, though difficulties had been encountered in rural hospitals to secure sufficient recruits. It was questionable whether a feeling of complacency in relation to hospitals was justified. It contrasted to some extent with experience in other fields of voluntary work.

Government policy was generally favourable to voluntary work but in Scotland it had not been actively promoted and it did not appear that Boards of Management had positive policies on this subject. Gratitude might be expressed by hospital authorities for voluntary help after it had been given but little was done to recruit and support volunteers in their work. Apart from the specialised training given to Red Cross auxiliary nurses nothing was done to prepare volunteers for their duties and only minimum financial and material aid was accorded. While voluntary bodies did not generally ask for help it did not occur to hospital officers to find out whether such help was needed. Contact with senior hospital officers appeared to be infrequent. Of the senior hospital officers, matrons seemed to be most in touch with voluntary bodies. While hospital staff might avoid approaching voluntary workers in an effort to avoid appearing to "interfere", there were signs that closer liaison would be welcomed. It was central to the whole problem of communications that no single person was responsible for co-ordination of voluntary work at each hospital.

The trend of voluntary service appeared from this sample to have altered little in recent years and there was no evidence to support the probability of change for the near future. A new initiative would be required to move a situation which, with some exceptions, seemed to have become static.

There was a general view that voluntary organisations made a worthwhile contribution to the hospital service but there were also some reservations, criticisms and an air of acceptance rather than of positive interest in development. An index of the value of a service was the extent to which it was replaceable. On this basis gifts, television sets, etc. could probably be provided from endowment funds but at the expense of other amenities. General services run by voluntary organisations might be undertaken by paid contractors but again the costs would be substantial. Personal services, visiting of patients and the general contact with the community could not be adequately replaced from within the service.

It appeared that hospitals should look at the particular functions which voluntary services could usefully undertake and that government departments should lay down broad standards. This would involve a more extensive survey of the existing provisions supplemented by a review of a sample of patients to test the "consumers" point of view. It might be possible for Hospital Boards to do their own surveys and compare the situations at different hospitals within their own areas.

The method of financing hospitals in relation to provision of amenities and services of a welfare type also required review. There were gaps affecting general standards and questions of comfort which the health service did not always fill. Matters of policy required clarification and in particular whether Hospital Boards were able to take a real initiative in relation to voluntary services. Was it necessary for them to wait until volunteers approached them? Top-level interest and the direct involvement of middle management were of particular importance in developing this work. Responsibility for selection and recruitment required definition and where possible a paid organiser of services should be employed to co-ordinate the total effort.

The full report of this survey and the recommendations arising from it would be published shortly by Oliver & Boyd as a paper in the University of Glasgow Social and Economic Research series under the title "Voluntary service in seven hospitals in Scotland".

MRS. M.A. ROBB, Chairman, Welfare Sub-Committee, Scottish Branch, British Red Cross Society, suggested that fundamental difficulties affecting voluntary work in hospitals were a reluctance by professional staff to see much value in it and over-anxiety on the part of the volunteer. This might be expressed in an apparent aggressiveness which did not help personal relations. If even part of the medical profession wished to retain entirely the tasks of reassurance, comfort and advice, and was reluctant to admit that the trained social scientist had skills to offer, what hope had the voluntary worker of easy acceptance? In this situation it was important to state convincingly that Red Cross services could be of real value. They came under several headings:-

Nursing auxiliaries

Auxiliary nursing by members of voluntary aid detachments was probably the most obvious form of assistance. Together with members of the St. Andrew's Ambulance Association, this constituted some 90% of the National Health Service Reserve.

Even by the time of the first world war nursing had moved so far from the Sarah Gamp era that volunteers were given little responsibility for active nursing duties. Now with the realisation that not all nursing procedures required the training and skill of the registered nurse, the V.A.D. could again serve usefully in the wards. This applied also to junior members approaching school leaving age who could and did give helpful service at weekends. They got a sound training in nursing duties in the Red Cross and especially those aiming at a nursing career enjoyed working in a hospital ward.

Escort service

This was extensive and could be of considerable importance to hospitals. The Red Cross services were universal and international links were of particular value when, as not infrequently happened, patients required assistance during a long journey. Because of road accidents many people were admitted to hospitals far from their own home areas and the escort service could make a valuable contribution to earlier discharge for patients who, though fit to travel, were too disabled to travel alone. Alternatively if an escort was not necessary for the whole journey, arrangements should be made to meet patients at rail journeys or termini and assist them there. A register was maintained of trained nurses who undertook journeys overseas. Accurate records were kept. For the year September, 1967 to August, 1968, escorts were used on 10,243 journeys yet there were still members of the medical staff and ward sisters who had never heard of this service.

Clubs for disabled

There were just under 100 of these clubs in Scotland run by the Red Cross or in co-operation with other organisations. The problem was to find the disabled people. Confidentiality made it difficult to get news of such patients. When those with some permanent disability were being discharged home it might be appropriate for the hospital authorities to suggest that they might care to join a club for the disabled or for the elderly. It would be appreciated if hospitals obtained permission from the patient to notify the Red Cross or if they could be encouraged to get in touch themselves. It was true, of course, that some time might elapse before the disabled person had come to terms with his condition and appreciated the companionship of a club.

Aids for the disabled

Patients might welcome a more immediate service on discharge such as the provision of simple aids to increase their independence in the normal movements of daily living. An interesting list was kept and the items could be procured with reasonable speed. They included aids for dressing, eating and drinking and for leisure activities. More extensive and elaborate aids might be provided on request. Every branch of the Red Cross might not have sufficient funds for this purpose but others frequently subsidised the National Health Service in provision of such assistance.

Work for the young disabled

The Red Cross in Scotland was doing important work for the treatment and training of young disabled people - the 16 to 35 age group - in houses and workshops at Largs, Inverness and on the Hillingdon Estate in Glasgow. In these establishments a new quality of living was brought to many who had been considered unfit for any form of employment and who might have spent their best years in the confines of a geriatric ward. Such people should be given the opportunity of assessment by experts - surgeon, physician, social scientist, nursing representative, etc. - a panel with many years of experience in the problems of reactivating the human frame and the human personality. The Red Cross in Scotland had pioneered this service and exposed a need which, if fully met, would go beyond the resources of any voluntary organisation.

Visiting

When Service patients were admitted to Civilian hospitals, the local branch of the Red Cross was notified by Scottish Command and visits arranged. Similarly, visits were undertaken to patients admitted to hospitals far from their homes if they had no friends or relatives near at hand. At the request of the medical social worker, home visits were also undertaken. Patients were still being discharged home from hospital to houses which had lain empty and under-heated for weeks. The Society could do something about this if they were asked.

Language cards

To allow interpretation on a question and answer basis cards had been prepared in 35 languages and there was a separate set of ten for

maternity work. These had proved of great value in hospital work. A set of the 27 most common languages cost 18/-. Separate cards cost 8d. each; maternity cards, 10d. each.

Hospital library service

Training was given on an "in-service" basis in the classification, cataloguing and the methods of issuing books for patients. This represented a considerable service to patients not only in the provision of reading material but as a social contact. As with all workers in the hospital service, attention was paid to the questions of hospital routine and etiquette. A picture library service had been developed and was particularly useful in long-stay units. Picture frames were retained at hospitals and pictures changed from lists circulated in the catalogue.

Other services

In Scotland a hospital car service was maintained in thirteen counties and, along with the W.R.V.S, work was undertaken in seventeen hospital canteens, forty-nine trolley-shops and with trolley-telephones.

Tracing and enquiry services could be of value particularly when a patient was admitted to a strange hospital. There were 111 national societies and, as the services were universal, information could be passed rapidly from one country to another in tracing relatives of sick people. These services were available wherever there was an element of sickness or disability; these terms were given a wide interpretation to include the elderly and the frail.

There was now a considerable body of volunteers who had had specific training in the subject of welfare. This training was constantly under review and was graded into three courses of increasing depth. Lecturers and examiners included members of the medical, nursing, social work and teaching professions. Examinations were held and this discipline led to more conscientious study and revision of what had been taught and greater appreciation of the knowledge gained with a view to its application. Details of the work of the Red Cross were included in the descriptive literature which was readily available.

As to the future, Mrs. Robb believed that if there was sufficient work to keep her employed, an organiser could bridge the gap or lessen tension between hospital staff and volunteer and give much needed support to the voluntary worker. The prospect of appointing an organiser who then felt the need to advertise in the local press for volunteers to organise was less impressive. Hospitals could not be converted into play-grounds on which the general public were encouraged to work out their personality deficiencies. It was the aim of the Red Cross to provide services recognised by hospital staffs to be advantageous in furthering the aim of professional worker and volunteer alike, namely the complete rehabilitation of the patient.

MISS M.I. JABOOR, Health and Hospitals' Organiser, Scottish Headquarters, W.R.V.S., explained that the Society first undertook hospital work as a war-time emergency job to give non-medical, non-nursing help in hospitals severely handicapped by staff shortages. Work was undertaken in this way as telephonists, clerks, canteen assistants, librarians, etc. When the National Health Service came into being in 1948, the W.R.V.S. was still working in 267 hospitals but already there was a different slant to the work. The patient was now the centre of the picture. With the changing pattern of hospital development and increased attention to the importance of mental welfare and the happiness of patients, the aim of the W.R.V.S. became one of providing welfare and amenities over and above those provided by the State. All W.R.V.S. activity in hospitals had been guided since then by this conception of its role. In the 1950s work was extended to include the organisation of canteens for out-patients and visitors and this, together with trolley-shops, was the main work undertaken.

With the publication in 1962 of the Hospital Plan, an important new stage in development was reached and it was clear that voluntary help was needed to complement the Plan. Many gaps would require to be filled particularly in relation to the provision of more personal services to patients especially in psychiatric and geriatric hospitals. The growing realisation that the non-medical, non-nursing, well-being and comfort of patients contributed to eventual recovery had involved the W.R.V.S. in a greatly expanded and developed programme though the essential aims of the service had remained unchanged.

Activities

In brief, these included:-

(a) The provision of welfare and amenity services for patients in the form of canteens, static shops, shop trolleys, tea-trolleys, television trolleys, library services, transportation service, etc.

(b) Assistance to busy hospital staff in clerical work, flower arrangement in wards, help in the service of meals and co-operation in occupational and diversional therapy programmes - under the direction of hospital staff - for geriatric patients and for the physically and mentally handicapped of all ages. Such personal contact formed a bridge between hospital and community.

(c) Assistance as receptionists, guides in out-patient departments and for incoming patients in big hospital complexes. This again introduced the personal, non-professional touch which was also important in running creches for child visitors and play sessions for child patients. Assistance was given by reading to blind patients, writing letters for those unable to do so, by doing individual shopping for patients, running clubs, and not least, by regular visiting.

The W.R.V.S. now worked in 1,500 hospitals and institutions throughout the United Kingdom; 141 of these were in Scotland. There were 450 canteens in operation in hospitals with just over 40 in Scotland: 70 static shops, 9 in Scotland and over 750 trolley-shops and tea trolleys of which 89 were in Scotland. The hospital service made a strong

appeal to W.R.V.S. members and it had never proved difficult to attract women to it. A recent count of those working regularly in W.R.V.S. hospital services in Scotland revealed just over 2,500 and as requests arrived for new or expanded projects, the response from the W.R.V.S. membership would be there to meet it.

The canteen, tea trolley, trolley-shop and static shop provided necessary and worthwhile welfare services for hospital patients and their visitors. They contributed, as had been officially recognised, to the well-being, comfort and happiness of patients so they were in themselves "a good thing". Fortunately, also, most of them showed an operational profit. This might be large or small depending on the size of hospital or institution and the volume of turnover. The profit was used to provide amenities which contributed in their turn to the welfare and happiness of patients. While these projects were not commercial in the usual sense, there was a built-in incentive to run them in the most efficient and business-like way while keeping prices at a very reasonable level. By doing this, the patients who were the beneficiaries of the canteen and trolley-shop services could benefit still further when the profits were used to provide other welfare amenities.

There was consultation between the W.R.V.S. and hospital authorities on the use to which these profits should be put. It was general policy that the National Health Service supplied what was needed for the sick patient while voluntary bodies working in hospitals used their funds to provide amenities which could seldom come from public funds. Over the years hospitals had benefited in a variety of ways ranging from purpose-built canteen shop units, a heated indoor swimming pool, day room facilities for geriatric patients, and canteen equipment to special chairs for geriatric patients, television trolleys for wards, prayer books for hospital chapels and toys for children's wards. Should a situation arise in which a hospital was not in need of amenities, the W.R.V.S. was in favour of sharing profits within a group of hospitals for the benefit of those less well off, particularly geriatric institutions, long-stay hospitals and units for the mentally ill and sub-normal.

Accommodation

The W.R.V.S. provided services in widely varying physical conditions. In some cases, chiefly in new hospitals or where rebuilding had been done, satisfactory accommodation was available for shops and canteens with good facilities for display, storage, kitchen requirements and good amenities for those running the service. In others, however, the work was handicapped by inadequate space and the lack of amenities for personnel. This situation was often unavoidable and could not be improved until the building programme developed further but there were cases where something could be done to improve conditions for the workers who operated the service.

Relationships

It was basic to the effectiveness and smooth running of voluntary services in hospitals that the relationship with hospital authorities should be good. This was particularly important with nursing and medical staff at all levels. Co-operation and mutual confidence was equally important between different voluntary bodies working in the same hospitals. If these relationships were poor, it was the patients who suffered. In general, the situation in these respects was satisfactory and there was a real appreciation of the value of work being done by the volunteers. But there was undoubtedly the occasional hospital or institution where relationships were not as satisfactory as either the hospital authorities or the voluntary bodies would wish. Every effort should be made by the responsible persons on both sides to investigate the causes of these problems.

The future

There had been a significant change in government attitude towards the role of voluntary workers in the hospital service and the general trend was for rapid extension. Many hospital authorities and members of the medical and nursing staff in hospitals saw that apart from the traditional canteen shop and trolley services, there were many tasks the volunteer could perform. These would not only relieve the hospital staff but have an intrinsic value when done by volunteers and not by professional people.

Particularly significant was the role the voluntary body could play in hospitals for mental or sub-normal patients. Here, again, the voluntary worker serving in the canteen or shop or taking part in club activities for the patients provided a continuing and valuable link between the patient and the outside world. As a non-professional person, she could often gain the sympathy and confidence of the mentally disturbed patient who might need this understanding and sympathy as much as the skill and care of doctors and nurses. In this way new requests might emerge for welfare work on behalf of mental and sub-normal patients in addition to the services in eighteen hospitals or institutions in Scotland where some work was now done.

The extension in recent years of out-patient departments and the large increase in the number of out-patients receiving day treatment had led to requests from certain hospitals for W.R.V.S. to provide receptionists and guides to take patients from one part of the hospital to another. A visit to a large hospital with a complicated system of departments, wards, x-ray units, etc. could be a frightening experience for a sick person and the W.R.V.S. receptionist/guide not only relieved hospital staff but performed a valuable service for the patient. She had more time than busy staff to devote to reassuring him and to answering questions. This type of service was not widely used in Scottish hospitals and attention should be drawn to it. The greater and more frequent facilities for relatives and friends to visit patients in hospitals had led to a need for comfortable seating accommodation and canteen services,

open every day including Sundays. These visitors might travel long distances to reach the hospital and bring young children. W.R.V.S. was already providing facilities for such visitors and in two hospitals in Scotland was running well-stocked creches for children.

Looking at the wider question of the future relationship of voluntary services to the whole programme of hospital work, it was hoped that voluntary workers might gradually become fully integrated in the life and work of the hospital and institution in which they served. The voluntary workers would then be regarded as members of a team engaged with hospital administrators, medical and nursing staff in a total operation which took account of the whole man or woman and to his or her needs. The welfare services they gave would be regarded not just as fringe benefits or as a useful but optional additional item in the hospital life of the patient, but as a specific element in treatment and eventual cure. The changing pattern of hospital development and the new realisation of the value of the voluntary worker and indeed the special role which the voluntary worker alone could play in certain situations, presented a great challenge both to the hospital authorities and to the voluntary bodies working in hospitals. The W.R.V.S. was very conscious of this challenge and realised that it brought new responsibilities. To make an adequate response to new requests would require efficiency and flexibility of approach. The organisation, however, stood ready to respond to new challenges and to put its experience and know-how at the disposal of any hospital which requested its help. It recognised that it must always operate within the framework and observe the disciplines of the varied patterns of hospitals. Someone had said that the health and vitality of a voluntary body was related to its capacity to develop in response to the changing needs of those it served; W.R.V.S. was not unmindful of this.

MR. G.G. SAVAGE, Secretary and Treasurer, Board of Management for Edinburgh Northern Hospitals, drew attention to the recent book by Jan Rocha*. This review by a social worker contained much helpful advice and some warnings which were necessary in relation to the development of voluntary services in hospitals. Due to an attitude in some quarters which regarded voluntary work only as a means to supplement a shortage of finance, these services had had a somewhat unhappy start in 1948. There were, however, excellent and positive arguments in favour of voluntary work in hospitals and such help should be welcomed. There was a wide desire in the community to make a personal contribution to the hospital service and hospital officers should on no account be cynical about this. There was, of course, an extensive voluntary effort in the membership of Boards and Committees as well as in the large number of voluntary agencies currently active in the hospital field.

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* ROCHA, JAN. Organisers of voluntary services in hospitals: a survey of the use of paid organisers of voluntary services in hospitals. London, K.E.H.F.L., 1968.

District general hospitals could be regarded as representative of the community as a whole and as focal points for the development of voluntary effort. In busy units with over-worked professional staff the voluntary worker had the great advantage of having time to speak to patients and others. Volunteers could undertake work which, though necessary, was not recognised in the official categories of hospital staff; as guides to patients, for example, in very large units. Again, the development of creche services had been slow. Many more young people were at work and required this type of facility for their children and it was surprising that there had been a lack of enthusiasm in developing this type of service at hospitals.

Experience in the United States and elsewhere should not be ignored. The employment of full-time "Directors" or "Organisers" of voluntary services might prove essential in co-ordinating and stimulating the overall effort. It was possible that some hospitals held back from the development of voluntary services due to lack of money with which to pay an organiser or because they were afraid of the organisation once it had been set up. It would be useful and practicable to attempt a list of jobs agreed by medical and nursing staff and with related organisations so that the potential contribution from voluntary agencies could have more clear cut objectives "on offer".

The main importance of voluntary work in relation to hospitals was not financial but in the application of human values. While voluntary effort could undoubtedly supplement the service and even provide facilities where none would otherwise exist, its influence in a qualitative sense was more profound. As in so many spheres, team effort was essential and it was possible that a paid organiser could help in developing this approach and in dispelling doubts which might now exist unnecessarily. The relationship with trade union activity, for example, was probably one of the fears which had been over-stressed. To take full advantage of those willing to provide and enjoy voluntary service, it was conceivable that the establishment of a department of a hospital might be justified.

DISCUSSION

In opening the discussion MR. J.R.Y. MUTCH, Secretary of the Scottish Hospital Centre noted that a comprehensive survey of voluntary services in Scottish hospitals was being undertaken at the Centre. A questionnaire would shortly be issued to Boards requesting information on the activity of voluntary workers in their hospitals including data on such matters as methods of recruitment, training and the financial arrangements.

With the large number of voluntary bodies operating in the hospital field there were organisational problems. These had not gone unnoticed in England where some thirty full-time organisers of voluntary work were in post; in Scotland the matter had not been given the same degree of attention and no such appointments had been made. As far back as 1963, following discussions at government level, Regional Hospital Boards had been asked to encourage Boards of Management to hold regular meetings with representatives of voluntary bodies with a view to co-ordinating activities and to avoid over-lapping functions. Six years later only a few Boards held regular

meetings of this kind on a group basis. There still appeared to be a lack of knowledge about the services required by hospitals on the one hand and the assistance which could be provided by voluntary bodies on the other.

Much goodwill undoubtedly existed in the community towards hospital services but its translation into voluntary effort was diffuse. It was an appropriate time for an assessment of the situation by hospital authorities. The opinions of staff, professional bodies and others should be sought on their attitudes to voluntary work in hospitals, jobs of substance should be identified and collaboration should take place on programmes of work. It was essential that volunteers should be made to feel wanted in hospitals and not be regarded as accessories. Central guidance might be appropriate but the official disbanding of the National Health Service Reserve might indicate a degree of apathy in some quarters. It would require a positive effort to integrate the potential services which were available and promote a co-ordinated extension of voluntary activities in hospital work.

In the general discussion the following were the main points to emerge:-

(1) Central advice

Some co-ordinated advice might be prepared for Scottish hospitals by the Association of Scottish Hospital Boards of Management. This might help to achieve a framework within which hospitals and voluntary agencies could work and might attempt to set certain standards. The need for guidance from the Central Department was also noted. This might review the general philosophy of the role of voluntary work vis-a-vis National Service, refer to the position of salaried organisers and the various financial implications. The view was also expressed that recognition of the need to rationalise the links between voluntary services and the hospital service was relevant to the Green Paper currently under discussion.

(2) Paid organisers

The importance of paid full-time organisers of voluntary work in hospitals was recognised. Some suggested that such organisers should be recruited from the voluntary services rather than from the existing hospital staff. Experience was presented to indicate that nervousness about an appointment of this kind was unjustified. It was also suggested that there might be a place for an unpaid organiser prior to the appointment of a full-time salaried officer and an instance was given of an effective part-time appointment at a hospital for mental illness.

The organiser could act as an effective channel of communication between voluntary agencies and the hospital staff and could assess not only working conditions, personalities, responsibilities and a suitability of work being offered to a volunteer but could help to make volunteers feel welcome and wanted. The organiser would

need to be carefully recruited and, as the focal point for the organisation and day to day running of voluntary services, should be given adequate status in the hospital. Previous hospital experience might be less necessary than a professional training and knowledge of social and community work together with the right personal qualities. With a new scheme it was wise to start slowly using a manageable number of volunteers. It was essential that mutual confidence was gained.

The title given to the organiser was important. "Organisers" would aim to develop services in hospitals which would help the staff, reinforce, encourage and even extend services to patients but would not seek to take decisions which were the responsibility of their professional colleagues. It was possible that, e.g. "Organiser of volunteers" might be a misnomer. It might lead to misunderstanding by implying the organisation of activities of volunteers within wards and departments. The title should not suggest that volunteers would take decisions which were the province of professional officers.

(3) Suitable areas of work for volunteers

There was a clear duty on hospital authorities to define areas suitable for voluntary work and to keep these under review. The pattern of service was changing and with increasing activities such as day hospitals, new opportunities for voluntary service emerged. Transport of patients to day centres was likely to be a more important feature than a few years ago. Additional requests for service were appearing in out-patient departments and this might be extended to clinics and health centres working in liaison with the hospital service.

(4) Follow-up services

The question was raised of the extent to which hospitals followed up their work when patients were discharged into the community. Co-ordination of the "customers" total needs was important and the potential of various voluntary services in this connection did not appear to be fully recognised. Enquiries and arrangements were frequently channelled through medical social departments at hospitals and while efforts were made there was room for more effective follow-up in many areas.

(5) Training

Different views were expressed on the extent of training required by voluntary workers in hospitals. For some services little more than an introduction to hospital routine was necessary but for others, more detailed instruction was required. Some voluntary workers underwent quite strenuous courses. The Red Cross training, for example, had to reach a standard accepted by professional officers who, by their teaching, helped the volunteers to achieve it.

Others suggested that instruction should be undertaken outside hospitals and should not take the form of book-

learning or lectures. The training should be aimed at the development of those human qualities which were a vital component of voluntary work. These included visiting lonely persons, letter writing, playing games, driving, shopping and generally acting as a link between hospital and community.

(6) Personalities

It was recognised that voluntary service was a serious activity. It should have some tangible purpose and make a positive contribution to the work of the hospital. Hospitals had a great appeal but too often voluntary work had a largely emotional basis or was used to fill otherwise idle time. Personality problems were not only important in the province of the volunteer. If the hospital staff did not form a compatible team this affected morale and was reflected throughout the whole organisation.

(7) Consultation

A plea was made for the avoidance of an exclusive approach to voluntary work and recognition of the fact that in hospital services a wide variety of interests were involved. There was an opportunity for the base to be broadened in relation to voluntary services and in discussions now being undertaken on the administrative organisation of the service.

(8) Finance

It was noted that volunteers gave time and energy and it was important that some finance was available to reimburse them for travelling expenses and petrol, for example, when individuals offered the use of their cars. There was a great disparity in availability of endowment finance and a marked lack of freedom to support voluntary work amongst the "have nots".

The possibility of some pooling of resources to allow a greater impetus to voluntary work was mentioned. The propriety of fund-raising for objectives which should normally be paid in a health service by the Exchequer was questioned and it was suggested that this might be met if the objective in view was identified by the "outside body" and not by the particular hospital.

Scottish Hospital Centre
February, 1969.

Library services in hospitals

Meeting at the Scottish Hospital Centre on Friday, 14th March, 1969.

Library and information services in Scottish hospitals are under-developed and fragmentary. At this conference the requirements of patients and staff were reviewed by a series of speakers. The need to appreciate the importance of librarianship together with the value of a more integrated service were among points raised in discussion.

LADY BAIRD took the Chair

MISS A.J. BUNCH, Librarian, Scottish Hospital Centre, introduced the subject and noted that in the two and a half years since a conference on libraries in hospitals had been held at the Centre, there had been encouraging indications of a real concern about the library and information services which had been for so long something of a "Cinderella" in the hospital service. In more precise terms, however, little appeared to have happened in Scotland. No purpose-built libraries for patients and staff had been created, no Regional Hospital Board had appointed a professional librarian to co-ordinate services in an area, and no guidance on this subject had been issued by the Scottish Home and Health Department. Nevertheless, there was evidence of a greater awareness in the Central Department, among hospital staff and on the part of librarians that a well-planned, efficiently organised library service was a vital necessity in hospitals. Even members of the library profession had not always been aware of the need to provide a service in hospitals or had been prevented from doing so by severe financial restrictions.

One of the great drawbacks to the establishment of a good library service in hospitals had been the almost universal confusion between a miscellaneous accumulation of books on the one hand and a library service on the other. Books and journals might be collected, placed in a relatively small room in which there were a couple of tables and a few chairs; this was then entitled "library". Volumes discarded from the living rooms of well-intentioned patrons of the hospital were gratefully accepted, put on shelves in a corridor and this was called a "patients' library". It could be argued that the hospital service in Britain was, by and large, only playing at libraries and it would go on doing so until it realised that a library service was a good deal more than magazines for members of staff and "Penguins" for patients.

There was wide misconception of the role of the library in the hospital and Miss Bunch stressed certain things that a library was not. It was not, for example, a place where out-of-date material could be unceremoniously dumped because consciences were too restricted to allow it to be filed in the wastepaper basket! Neither was it a room with deep leather armchairs into which staff could retire after a heavy lunch for a smoke or a snooze. It was not a place to be used as a waiting room, dining room, classroom, board room or meeting room however

boldly the lettering on the door proclaimed the word "library". The concept of a hospital library service to all categories of staff and to patients should be that of an information and cultural centre for the whole hospital. It should be alive and dynamic and promote its wares; it should introduce patients and staff to a host of information and recreational activity of which they were unaware and scarcely knew they needed.

The factor which made all the difference between the miscellaneous accumulation of books and a library service was the librarian and in particular a librarian who was enthusiastic and trained to exploit not only his own library's resources to the full but those of other libraries and information centres as well. The hospital service was only beginning to realise that it needed librarians and only beginning to recognise that the image of the librarian as an elderly scholar picking his way amongst dusty tomes or as a bright young secretary providing a kind of personal typing-cum-devilling service, was incorrect.

Hospitals found it hard to shed an attitude of parsimony towards libraries and librarians because, perhaps, they were seldom able to show a costed and tangible return for the money expended. Authorities were still saying, possibly sub-consciously, "could we get it on the cheap?". There was, however, a level of cheapness which became a waste of money. It was, for example, a criminal waste to beg a few thousand pounds from a charitable organisation in order to found a library and not provide adequate annual funds to keep it up to date and to have the collection properly organised. It was certain, too, that sums of money were being dissipated amongst departmental collections of books when much better use of the same funds could be made with greater centralisation. The United Hospital Fund of New York estimated that 5% of all books and 10% of all periodicals were duplicated when medical and nursing libraries, for example, were separate. It should be stressed that librarians were not avaricious characters trying to prise every textbook away from every consultant. A permanent loan system was easy to operate so long as the material was centrally catalogued.

If hospitals were beginning to realise that they needed better libraries and professional librarians to run them, were they also beginning to think about the setting in which library services were to be provided? The answer either appeared to be "no", or that the evidence of such thinking was very slow to appear. In the survey of libraries in Scottish hospitals* it was found that nearly 80% of hospitals providing literature for medical staff had no separately defined library accommodation used exclusively as such. Of the remainder, few provided an acceptable physical environment both in terms of overall space and book stock. The standard of accommodation for patients' libraries was worse still. Although more hospitals were allowing patients to visit the library to choose books for themselves, in most the "library" was either a store room which held about two people at one time or a cupboard in a corridor.

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* Libraries in hospitals: a review of services in Scotland. Edinburgh, Scottish Hospital Centre. 1969.

One might ask, could the proper setting for a library service be provided? There was no doubt that it could be. There were still a few who would question the need for a library service at all but even amongst the majority who acknowledged that libraries were essential in hospitals, there was a group who tried to wriggle out of the responsibility of providing a proper service on the pretext that suitable physical accommodation was not available. Obviously the ideal solution was to include the correct provision for a library at the earliest planning stages of a new hospital, but it was important not to let the immediate lack of ideal accommodation become a deterrent to setting up the necessary administrative machinery for a library service. It was possible even in existing accommodation, to provide a properly co-ordinated service given the right personnel. Large teaching hospitals would probably warrant a separate staffing structure for the professional library and for the general library - which should be available to staff and patients - but in district general hospitals, the overall administration of libraries should be in the hands of one professional librarian with the necessary assistants.

Many would like to see hospitals in Scotland seriously tackling this problem of provision or rather the existing non-provision, of an efficient library service to all members of the hospital community - staff and patients - and, looking to future integration of all branches of the health service, extending the library service to general practitioners and members of the health and welfare staff of local authorities. Complete administrative co-ordination of all types of library service within any one hospital could be envisaged. This did not imply that the long tradition of voluntary effort, particularly in regard to patients' libraries, was not fully appreciated. The Scottish Hospital Centre's report clearly demonstrated that more rather than fewer volunteers would be required when services were professionally managed.

Miss Bunch indicated that she would like to see co-operation between libraries in different hospitals on the basis of parent and dependent libraries within a given area, whether that of a Regional Board, or, possibly of an Area Health Board. It might even be suggested that the organisation of hospital libraries could be on a national basis at least in Scotland. There should be greater co-operation between hospital libraries and other libraries, particularly the public libraries which had a great role to play in the provision of general literature. It was essential, of course, that sufficient librarians were available. Without them this kind of service could not get off the ground. The fact that the two Scottish library schools had joined other British library schools in offering their students the opportunity to qualify in the two specialist papers in the Library Association's examinations relevant to this type of work, namely, hospital librarianship and bibliography, and librarianship of medicine, was to be welcomed. Many young student librarians were really interested in this type of work. There was tremendous scope for the development of library services in Scottish hospitals and if an initiative was taken by the responsible authorities, the future could be exciting.

DR. B.H.R. STACK, Senior Registrar, Western General Hospital, Edinburgh, indicated that his qualification to speak on the subject was as a representative of a group of users namely the junior hospital medical staff. In 8½ years he had sampled library facilities in no less than 13 British hospitals ranging from small hospital units to well-known undergraduate and post-graduate teaching centres.

The main aims of a hospital medical library should be to provide readily available and up-to-date information on any problem likely to be encountered in everyday hospital practice, to furnish the means of obtaining elsewhere more detailed and specialised reference material which could not be included in the library itself due to shortage of space and money, and to serve as a place for reflection and study for all members of the hospital staff. The range of reference material supplied by the library would clearly depend on the function of the hospital or hospital group and the presence and scope of any other medical libraries in the vicinity. In the Edinburgh Northern group hospital library, 60 current periodicals and 250 textbooks were available and these covered modern knowledge in the fields in which the hospital provided a service. Limited borrowing of older periodicals and textbooks was allowed at night but for most of the time all this reference material was available to medical staff in the group. The provision of such a range of periodicals was a discouragement to individual departments from collecting their own small specialised "libraries" and an encouragement to individuals who subscribed privately to journals to donate these to the library once they had been read. For reasons of space it was probably better not to retain previous numbers of journals for more than 10 years; these could be stored in separate premises.

Accessibility was also an important quality. To be available to the maximum number of readers and for reasons of economy and security, the library should be housed in the largest hospital of a group but allowing free access to all members of staff. Within the hospital the library should be placed as near as possible to the ward units as medical and nursing staff were likely to be the heaviest users. It was important that the library should be accessible at all times and this meant that in off-hours a key should be available to authorised users. This was usually placed and signed for at the enquiry desk, the casualty department entrance or in the out-patient department. It was particularly important that junior medical staff who sometimes had to deal with emergencies outside their experience should be able to refer to literature about the problem in hand.

A hospital library could not be expected to cater for the more specialised needs likely to be encountered in the preparation for academic meetings or for publications. For these it should be possible to make use of the inter-library service which provided a comprehensive cover of world medical literature. This was one of the functions of the librarian whose presence was essential to the effective working of the hospital or group library. Through her knowledge of the problem and her contacts with fellow librarians elsewhere, she should be able to obtain reference material not immediately available to the reader.

The librarian might do this herself using the appropriate Index Medicus and cross references or she might put the reader in touch with the Medlars Information Retrieval Service provided in collaboration with the National Lending Library. The librarian must have the necessary qualifications to enable her to undertake these reference and information services.

The custodial function was a subsidiary but an essential one. All libraries were prone to the forgetful or dishonest user and some, particularly if unmanned, might lose valuable books. These losses might be substantially reduced by the presence of a keen librarian by day and restriction of borrowing by night to authorised and responsible members of staff.

The bulk of reading must be done in the library and although unduly plush surroundings might encourage sleep, a minimum of comfort was necessary for concentration. Unhappily, some of the best-stocked libraries failed to provide this. Most tended to err towards over-heating and under-ventilation and in any small library smoking added to these problems. It also carried an increased risk of fire which might adversely affect any insurance premia. For these reasons, it should be banned. Given reasonably comfortable conditions the hospital library could fulfil a much felt need among junior members of staff in providing a place for quiet reflection - a think box - where ideas about patients, their treatment and investigation and allied research could be considered and examined with the aid of suitable reference books.

Finance was a crucial factor in any enterprise and required careful consideration in relation to library services. Dr. Stack explained that at his present hospital the library serving a group of 220 hospital medical staff was in a room about 22 ft. long by about 15 ft. broad. It was also open to students and nursing staff, the average occupancy during the day being 3-4 persons. The furniture consisted of adjustable metal shelving, a large wooden rack for current periodicals, seven upright leather-seated chairs with arms, three comfortable armchairs, a couple of small wooden tables, four large tables ($2\frac{1}{2}$ ft. x $3\frac{1}{2}$ ft.) and a librarian's desk with a typewriter. The approximate value of these items was £800-£1,000. This had been paid for by the Regional Hospital Board which also met the cost of lighting, heating and rates. Major items of annual expenditure included about £250 for periodicals, £200 for binding, £150 on textbooks and £500-£800 on the salary of a library assistant. A small library of this type would thus cost between £1,500 and £2,000 a year to run. This expenditure was worthwhile. A rapid expansion of medical science made it impossible for even the most highly qualified and best read member of the staff to keep abreast of current progress in anything except narrow fields. This led to an ever increasing need for constant referral to suitable reading material. Again, the current dissemination of teaching and such activities away from University centres to peripheral hospitals made it important not only to provide library services but to attract career-minded junior staff away from teaching units into the peripheral areas. This was a mutual benefit as the provision of good library facilities was essential to the training of junior medical staff and to the provision of up-to-date medical services.

MISS I.C.W. FIMISTER, Principal, Foresterhill College, Aberdeen, noted that broadly speaking, nurses fell into four groups - those in training, those working in hospitals, those in community work and those engaged on special projects. Their work could be considered from four aspects:-

(a) as an intimate personal service available to all age groups of varying needs and under different circumstances;

(b) as concerned with the maintenance and promotion of health;

(c) as involved in rehabilitation when health broke down;

(d) to co-ordinate the activities of others involved in the work of the health and social services.

It was against this background that consideration had to be given to the structure, organisation and location of libraries designed and equipped to meet the requirements for books and journals of nurses who were students and pupils, ward and departmental sisters, health visitors and district nurses, nurse teachers and administrators.

In view of the degree to which the library needs of nurses were related to similar requirements of administrators, medical, professional and technical colleagues, the current practice of segregation which isolated learners one from another might be questioned. The formal training of nurses was introduced in this country in 1860 and has been regulated by statutory controls since 1919 but even so, the provision of library services for nurses in terms of money, personnel and accommodation had been, with a few exceptions, the subject of little rationalisation in the context of the hospital library service as a whole. It would in fact be wrong to pre-suppose the existence of suitably established arrangements. The first nurses' library Miss Fimister helped to provide consisted of a suitcase bought with profits from the sale of home-made toffee and some books from the proceeds of a jumble sale. It was not an exaggeration to say that for many schools of nursing the only progress in the years between then and now was that the suitcase had been replaced by a cupboard (often locked) and that many of the book purchases depended on money being made available towards the end of each financial year from sums set aside for the salaries of tutors whose posts had not been filled.

Nurses were bedevilled as students with conflicts between learning by experience and learning by intellectual exercise - a conflict which was perpetuated for them as trained staff in the dichotomy of meeting the service needs of the hospital and the educational needs of the students of the school of nursing. The Foresterhill College of Nursing in Aberdeen had certain individual characteristics. It was a large group nursing school following a policy of co-ordination and integration and provided courses for some 800 student and pupil nurses from different kinds of hospital. It had a tutorial staff with a wide variety of expertise and interests; it had its own clerical department and employed a full-time, qualified

librarian and a part-time library assistant. It was situated as an integral part of the Foresterhill hospital complex and enjoyed close working relationships with other disciplines. The College was built by the Scottish Home and Health Department and contained spacious and attractive library accommodation. It comprises 1,720 sq. ft. with a gallery as a private study area. The librarian's room and the stock room were each 180 sq. ft. and there was extensive open shelving. There was also storage and display accommodation for journals. The library equipment, books and journals and the librarian's salary were paid by the General Nursing Council through the Regional Nurse Training Committee. Space was important and it was noted that Hospital Equipment Note No. 14 - Training Schools for Nurses - a document of some 20 pages and purporting to include items necessary for the functioning of a school, allocated only one third of a page to the library provision and only one line to the item "books".

Generous allocations were given as soon as the building programme was approved and indeed there were books before there was a building. The General Nursing Council continued to look on the library as a developing one and an annual maintenance grant had not yet been made. There were 4,000 volumes and some 40 journals were taken. Each member of the staff was expected to participate in revising book lists and material was lent to those in the hospital service in Aberdeen who required it. Special arrangements were made for students from other colleges undertaking particular projects and there were close links with the Aberdeen Public Library. A telephone enquiry service was offered and this was particularly valued by ward sisters. New students were given guidance on the use of the library by the librarian and an exhibit was on display focusing attention on a particular topic and supported by a selection of books and appropriate articles. While no experience had been gained on a planned centralised organisation, consideration had been given to making books more readily accessible particularly to staff in ward units.

A nurse's ability and desire to use, enjoy and benefit from a library during her whole career was directly related to the emphasis placed on the wide and wise use of books during her training. If the role of the library was neither appreciated or understood, no amount of planning or organisation however rational or efficient, would change the nurse's reading habits. It was important to recognise the value of well planned and organised library and information services. The desire to study and an appreciation of its value could be fostered by aiming to put the right book in the right hand of the right nurse at the right time. There was still the problem, however, that the system had produced among nurses a regiment of reluctant readers.

In the absence of MISS M.E. CUNNINGHAM, Principal, Occupational Therapy Training Centre, Astley Ainslie Hospital, Edinburgh, her contribution was made by MISS M.E.C. LOGGIE, a member of the teaching staff at that Centre. She noted that in relation to some of the groups known as "professions supplementary to medicine" the library services of hospitals could be considered from the points of view of training schools, the hospital staff and the patients.

It was generally accepted that libraries were an essential provision for students and staff in educational systems and those professions whose training establishments were under the aegis of the education

authorities and universities were better served in this field than those administered by the National Health Service. In the Service, the major function of which was not educational, the available funds were devoted chiefly to its main commitment i.e. the provision of treatment for patients. In this situation, small groups like occupational therapists and others came fairly low on the list of priorities. This meant that the provision of books and journals for students and teaching staff even in training schools within hospitals, was on a very small scale due to lack of money. The medical and nursing libraries - which were usually separate from each other - were not generally accessible to other groups in training at the same hospital and it was presumed that they were also limited and could only cater for those for whom they were immediately provided.

Serious problems arose for groups such as occupational therapists as relevant textbooks were comparatively few and it was necessary to rely heavily on reference books written primarily for medical purposes. These were expensive and required fairly frequent renewal. Even where there were library allowances these were too small to permit a reasonable body of reference material to be built up.

Journal subscriptions had usually to be included in the annual library grant and this led to few if any being taken out. A comparatively limited number of textbooks written specifically for professions supplementary to medicine made it particularly desirable that a good range of journals was supplied as most of the up-to-date information and references to recent advances appeared in these. It was noted, however, that financially some schools were more fortunate than others. The "have nots" were seriously under-provided.

The increasing availability of audio-visual aids raised new fields and should be catered for in the provision of library facilities. Loop-film projectors with the necessary cassettes of films should form part of the reference material for use by both staff and students. Tape recordings of, for instance, interviews with patients could be a valuable supplement to lectures and discussions; slides could form a valuable part of a library. Suitable patients were not always available for demonstration at the correct time in a teaching syllabus and this could be overcome to some extent by having such material at hand together with a camera, cine camera and tape recorder to augment it. This meant an added call on limited library funds but it was essential that this should be faced as a necessary development in the facilities of an up-to-date training school.

For hospitals without training schools, most departments appeared to have an adequate supply of books on practical activities but the few reference textbooks were the personal properties of members of staff. If there were libraries, these were likely to be separate for medical or nursing staff and often further departmentalised. Most hospitals allowed students who were obtaining practical experience to use these collections but they contained few if any books on, for example, occupational therapy. The same situation arose for

other similar professional groups. Psychiatric hospitals were probably better provided in this field than general hospitals but the overall inference was that in most hospitals no significant provision was made for other than medical and/or nursing staff. Again, there was a lack of special equipment for speech therapists where departments took students for practical experience; this had frequently to be borrowed from a parent training school.

As regards books for patients, it appeared that reading as part of treatment programmes was a field which had not been fully explored. This might be because of the lack of easily available sources of suitable books within the hospital. While the needs for popular current literature of the lighter sort might be met to a greater or lesser extent, many long term patients reached a stage when they wished to use their time for more serious reading and suitable books or the more "solid" weekly magazine were not always directly available. Another group of patients who were hardly catered for were those who, permanently or temporarily, could not read an ordinary book. Some might be able to read large-print books but for others, tape books were the only answer. These, however, were only readily available for the blind. Particularly where occupational therapy services were undertaken some specialised equipment such as page-turners and book-stands might be provided. These reading aids could form part of the library facilities for issue to patients who needed them. In general, the discussion of what patients were reading could make a valuable contribution to understanding the patients themselves and might influence the planning of treatment programmes. This in turn reflected on the availability of literature to meet reading requirements and the development of library facilities.

MR. ROSS MITCHELL, Deputy Secretary and Treasurer, East Fife Hospitals Board of Management, accepted that while the need for libraries for medical and nursing staff was well recognised the facilities actually provided were often inadequate. The library and information requirements of other categories of staff had been largely neglected. There were two distinct but related needs, i.e. those concerning the basic training of younger members of staff and the requirements of those for whom training was a continuous process.

Over the past ten years there had been much development in the training arrangements for administrative and clerical staff. There were national training schemes aimed at graduates and both regional and local schemes catering for school leavers. The end result was a substantial number of trainees within the service. A medium sized hospital group might have 12 young men studying for professional qualifications. Most were aiming for the Diploma of the Institute of Hospital Administrators, others were studying for qualifications in secretarial work or accountancy. All these trainees required books and reference material. It was true that under Whitley Council Regulations they could be assisted with the purchase of textbooks but some Boards had decided that the money was better spent in building up a small library at the Board office.

Training needs were not, of course, limited to administrative and clerical staff. Many other categories were involved. The training of certain groups e.g. radiographers and physiotherapists, was based on training schools and the need for books at these schools was self-evident. Outside these centres, the need for literature was not great,

perhaps one or two textbooks in a department would suffice. There were many other categories of staff, however, whose training was not centralised in this way and whose needs were perhaps overlooked. These were, in the main, professional and technical staff - laboratory and pharmacy technicians, works assistants and engineers. They also required books and reference material and if in sufficient numbers, a library service would be of value to them at hospital level.

Training was for many a continuous process. The established members of the staff had to keep abreast of current practice. For this reason a library should also contain books on management subjects. Many of these were American and voluminous; it was reputed that some were sold by weight! Journals should be included in the library. Many members of staff should read publications such as the journal of the British Institute of Management and the Institute of Personnel Management. The "Hospital", "Nursing Times" and Nursing Mirror" were other obvious selections.

It had only recently been recognised that a vast amount of work had to be done in the field of management training to fit members of staff within the service for managerial or supervisory posts and to maintain efficiency amongst those who had to read in order to keep up to date. A medium sized group could have up to 200 staff employed in some form of managerial or supervisory capacity. The Salmon Report had highlighted the need to give nursing staff some training in management and much had been done in this field. Little had, however, been accomplished for other "managers" - the group engineers, the superintendent radiographers, the catering officers and others. These staff required training in management and while a library was not a substitute for a training course, it could bring back and support training schemes.

Staff libraries should also include official reports and circulars. It was always a headache to determine how wide the distribution of a particular document should be. On cost grounds alone it would be impossible to distribute to all departments copies of say the Salmon, Todd and Zuckermann reports. One or two copies could, however, be placed in a library and this would be welcomed by staff. Other publications of common interest could be made available including the reports and notes issued by the Scottish Hospital Centre.

It would be preferable for any library for administrative and other staff to be included in a general staff library. Mr. Mitchell did not favour the setting up of separate libraries throughout the hospital. Assuming that the necessary accommodation could be made available, centralisation opened the door to a much more organised service. The employment of a librarian could be justified and the service and staff would gain by this arrangement. Many books were of direct interest to more than one profession. Laboratory technicians, for example, wished to have access to the medical staff collection as these books could assist them in their studies. A member of the administrative staff would be none the worse for browsing through "Gray's Anatomy". Nor, for that matter, would members of the medical staff be corrupted by reading a few pages of "The Practice of Management".

MISS M.E. GOING, Hospital and Welfare Librarian, Kent County Library spoke on the requirements of hospital patients who were not only a large element of the hospital community but were, in fact, the raison d'etre of hospital work. She noted that the psychological effect of illness was important but too little considered. When an accident happened or even in the event of a less dramatic illness, people rushed to render first aid and to give what help they could. But the patient's mind was given less attention. Hospital librarians had been aware of this problem from the early pioneering days.

The length of time patients stayed in hospital varied. The average might be around 12 days with a longer stay in, for example, orthopaedic or geriatric wards. The hospital was no longer "a place apart" and the needs of people for reading and reference material both in and out of hospital were mostly linked and new hospitals might be envisaged with health services based on them. This had been projected and amplified in recent reports and tied up well with library services particularly if the boundaries of the service were similar. All types of patient required a service and there were classical examples of people who had achieved a new vision by taking advantage of a spell of illness for constructive reading.

The patients' library should be co-sited with the medical library - adjacent to it if possible - and should have a well qualified staff and a good stock. It should be allied to or even part of the welfare library service outside the hospital bringing the scope and resources of the county library system within the reach of patients when required. The qualified library staff required assistance of voluntary helpers. Patients who were able to do so should come to the library; for bed or ward-fast patients a trolley service was required.

It was useful to the patient to have the opportunity of a talk with a librarian who, having no uniform, could assist in reducing a clinically tense atmosphere and assist relaxation. For Miss Going a "pre-med" would only be an interruption to her reading! For longer-stay patients the visit of the librarian and her book trolley helped to prevent the patient from brooding about, perhaps, being the oldest inhabitant of a ward; it helped to divert the patient's attention from physical ailments. Ward sisters had found the type of book on a locker an excellent introduction to conversation with the patient. This could be a more helpful approach than an immediate enquiry about the patient's symptoms.

Different types of ward unit and different patients had special requirements. Talking books were most helpful in eye wards; short-stay patients in the surgical wards mainly required diversion, young lads with injuries might require literature to compensate for missing day-release classes. Patients with particular disabilities and handicaps might have particular requirements, for example page-turners. In psychiatric units the library service could play an essential part. With more ambulant patients and some, perhaps, assisting in library work, additional space was required. It was essential that each patient's needs should be assessed individually. The librarian's trolley should have a selection of various types of reading material. A trolley could hold about 120 volumes and should be an attractive sample of the main library resources. Much had been learned about the best way to set out reading material on a trolley. If suitably houses, well stocked and staffed, the library could be the hub of the hospital community. It could develop an outside atmosphere and provide individuality in lieu of mass communication, relaxation in

place of tension and profit from a spell of inactivity. Reading was a quiet occupation. It developed the intellect and the pace was one's own.

Miss Going noted that some English Local Authorities e.g. Kent and Durham, ran Hospital and Welfare Sections. This arrangement was likely to be followed by other Authorities as it had been found to facilitate a more uniform service to people whether in or out of hospital. Voluntary workers had done excellent pioneering work in hospital library services. A combination of the professional librarian and the volunteer in consultation with the clinical and nursing staff, and with medical social workers represented an excellent team. The librarian should liaise with speech therapists in relation to particular types of patients so that their different needs could be assessed and met. A library service might also be extended to day hospital care and mobile services linked to the county libraries could extend influences begun in hospital into the community.

DR. A. MENECES, Medical Officer, Department of Health and Social Security, noted that each of the three elements of a hospital's role - patient care, training and research had library implications. Admission to hospital was an episode in a comprehensive health service at all points of which the need for reading and reference material could arise. In planning the appointments for young medical staff the availability of good library services was an important factor and had been stressed in the Todd report. The recent Green Papers and the Reports on Social Services had emphasised the need for training and the Health Services and Public Health Act 1968 (Section 63) included powers to require, inter-alia, Regional Hospital Boards to provide training facilities on a wide scale. All hospitals were to some extent research units though some were equipped to undertake this more intensively than others. All needed some level of support from a library and information service.

The Department of Health and Social Security was now considering a draft memorandum on library services. While the Central Department could not order Boards to spend money in a particular way and although it was recognised that they had difficult problems of priorities, nevertheless there was a clear intention to promote the development of library and information services. In this connection it was useful for hospital authorities to make good budget estimates in advance. It was also important to ensure that when it was issued the hospital memorandum on the library services did not stay in the secretary's office. It should be disseminated, studied and implemented.

The Hospital Plan aimed to reduce the large number of hospitals and co-ordinate services with the district general hospital as a base. This would also allow the more co-ordinated organisation and integration of library services. A chartered librarian should be in charge of the different elements of library and while these need not necessarily be in one building they should be under one administration. The absence of a

chartered librarian could lead to inefficiency and waste. As regards research, Dr. Meneces laid stress on the value of lending services and the use of Medlars. He did not favour very large regional collections of literature; these were less necessary if an integrated service was available on an inter-regional basis.

On space requirements for the patients' library, Dr. Meneces drew attention to the recommendations of the Library Association and quoted a minimum of 800 sq. ft. with additional space for hospitals over 600 beds or having special requirement. For the staff library, University Grants Committee space recommendations should be followed. Although the present financial climate was generally unfavourable, the Treasury had recognised the intrinsic value of library and information services. With central guidance, good budgeting and integrated planning there was considerable hope that significant developments would be achieved in this field.

DISCUSSION

MISS E. CUMMING, Librarian, Scottish Hospital Centre, opened the discussion by stressing the need to employ a chartered librarian if a new hospital service was to develop satisfactorily. It was illogical to suggest as some did that a tentative effort should be made to initiate a library and employ a librarian at a later stage if the trial was a success. It was impossible to get accurate estimates of the library's needs without professional assistance at the outset. The sums required were not large in relative terms but it was a disservice to library work to pitch the requirements too low particularly as regards salary scales.

While it was impossible to expect a library to develop by itself it was also important to ensure that enough librarians were being trained and would be available for appointment. It was encouraging to have the promise of a memorandum from the Department of Health and Social Security and similar guidance and encouragement from the Scottish Home and Health Department would be welcomed. For the future it was also important to identify and rationalise links between a hospital library service and the services provided by local authorities. These were extensive in some areas but less so in others. In some the reliance was mainly placed on voluntary agencies. If a hospital library and information service was to play a key role in supporting the general work of the hospital, research and the needs of a large variety of types of patient, it would have to be carefully sited, staffed and integrated with other services. The recent survey undertaken by the Scottish Hospital Centre would form a basis for this provided the need for development was recognised and promoted by the Central Department and the Hospital Boards.

In the discussion the following were the main points to emerge:-

(1) Availability of librarians

It was noted that an increasing number of students were taking hospital subjects in their librarianship course. Good, socially orientated applicants were available and the problem in recent years had been to a greater extent a lack of suitable posts than a lack of candidates. It was recognised that young

librarians required guidance particularly during the first six months of their service and that the influence of senior librarians was of particular importance at this stage.

(2) Integration of library services

If expensive duplication was to be avoided and an efficient service created with the necessary trained staff in charge, integration of the categories of library work at hospitals was essential. The objective should be to serve as wide an area as possible linking facilities and services within the hospital to those provided by local authority resources in the community. Some difference of view was expressed whether patients should have direct access to medical literature but there was general agreement that even if elements of the library service had to be physically separate in existing accommodation the service should be integrated and under unified professional control.

(3) Viable size

In planning the development of library services it might be important to attempt to identify the smallest viable size of hospital which could support an integrated service. Others noted that standard answers in terms of the number of beds in a particular unit might be unreliable.

It was preferable to review a group rather than a single hospital and this approach might be even more appropriate if the Area Health Board concept was introduced. One example quoted as an indication of a basis of provision was a hospital of 350 beds serving some 10,000 people at which a count of library users and potential users revealed 800 health professionals to be served by the post-graduate centre at this hospital. A library of this kind would require more than one chartered librarian.

The position in small hospitals was more difficult though it was possible to link such units with larger centres and to employ such devices as a "bookcase service" where mobile patients could come to a day room where a collection of books was made available and changed every few weeks.

The viable size of a library would also depend on available finance and in this it was noted that endowment funds might well be used to supplement provision through central funds.

(4) Inter-library liaison

When professionally run hospital libraries could co-operate with each other informally and easily. A regional library could contain major bibliographic

works and expensive items not frequently consulted. Specialist hospitals had separate requirements and these could be met using the hospital's library as the entry point through which wider resources could be tapped.

The information retrieval services in the bio-medical field (Medlars), represented a sophisticated aid and was of particular value where resources were difficult to get by manual methods. This service, while free to the user, was expensive; it required some £16 for each computer search - £12 of this was for computer time. The service was, however, likely to prove of increasing value to medical and scientific workers involved in research.

(5) Library space

The problem of under-estimated space was raised. The provision should be made in relation to the projected stock and the number of users though it might be possible to some extent to ration the times when, for example, study carrels were available. There was no doubt that if suitable accommodation and facilities were made available that hospital libraries would become increasingly popular and more frequently used.

(6) Selection of patients' books

It was submitted that the inclusion of romantic and sometimes scurrilous items of fiction portraying imaginery hospital scenes were unsuitable for patients and these should be censored. A wide variety of suitable material was, of course, available for patients and it was noted that the particular requirements of reading material might change during a patient's stay and in relation to the stages of an illness. It was part of a librarian's expertise to offer advice to patients. The particular requirements of children were stressed and the fact that many hospitals had an unnecessarily poor selection of material suitable for children of the 6 to 10 age group.

(7) Information services and research interest

Library services were of particular importance in teaching centres. Special teaching apparatus should be in the charge of the hospital librarian who could promote such services. Again, librarians in teaching units could assist students in the technique of consulting bibliographies and citing references. Most professional people were still inept in questions such as library searches.

Much could be done for patients who could not read easily. Recording services could be developed on tape and local newspapers or other items of local interest used as a basis for information of patients. Again, there was a need for research within the library service. Studies of reading habits were quoted in this connection.

(8) Departmental guidance

The impending memorandum by the Department of Health and Social Security was welcomed and the need for a similar memorandum in

the Scottish context was noted. The recent report by the Scottish Hospital Centre would form a background to such a memorandum and questions arising from the "Todd Report" were also noted.

How far the hospital service might duplicate or should reinforce the work of the public library service, when both were supported by the Exchequer, required examination. The fact that a service was an entitlement in England and Wales but only a privilege in the Scottish context was a nice distinction which might not affect the practical issue significantly. Much depended on the quality of the Local Authority service and the interest of the particular librarians in charge. It was clear, however, that a lively positive service giving reliable and relevant data for all grades of staff and catering for the particular needs of patients was required and if this was to be achieved, it would be promoted by firm guidance from the Central Department.

(9) Relationship with librarians in teaching hospitals

Universities accepted the responsibility for library services in teaching hospitals insofar as professional staff was concerned and in the past Scottish hospitals had relied on this service rather than develop separate hospital libraries. It seemed important that Hospital Boards should take their share of the requirement for library and information services in teaching as well as non-teaching hospitals though it would be wrong to have two parallel enterprises creating duplication of effort. It ought to be administratively possible to arrange a shared effort and avoid duplication and waste. Examples of the double funding with an agreed subdivision of expenses were given in relation to two English medical schools.

Scottish Hospital Centre
March, 1969.

Aids for disability

Meeting at the Scottish Hospital Centre on Friday, 18th April, 1969.

Many statutory and voluntary organisations play a part in caring for the disabled and the elderly. This conference explored the liaison between these organisations and the problems of ensuring continuity of care, and also the difficulties encountered in identifying and obtaining equipment for the disabled.

MRS. C.J. TUDHOPE took the Chair.

The opening speaker was DR. IAN H. STOKOE, a General Practitioner in Leith, who spoke of the contribution made by the family doctor to the care of the disabled. He had found that in the Edinburgh area alone he could call on more than 45 organisations including government departments, different branches of the National Health Service, the local authority, and 38 voluntary societies and associations. These organisations deployed a wide range of skills. For a patient such as a hemiplegic who might require physical rehabilitation, mechanical aids, alteration to the home and perhaps training for a new job, there was a danger of overlap between the various agencies who might be called upon to help. Dr. Stokoe argued that fulfilling the patient's needs and improving his quality of life demanded a co-ordinator who might well be the general practitioner.

The World Health Organisation had defined the general practitioner as a physician who did not limit his practice to certain disease entities and who offered his patient direct and continuing access. Professor Richard Scott of the Department of General Practice in the University of Edinburgh had given the further definition of the general practitioner as one who did not predetermine the kind of diseases that his patients might have. He had to be concerned with minor or major clinical conditions and with the patient whose problem was partly or wholly of a social nature. He was inevitably involved in diagnosis and assessment in which major or minor organic disease was complicated or associated with difficulties of inter-personal relationships. Such definitions confirmed that the general practitioner could be the logical person to co-ordinate, manage and follow up the care of patients disabled through physical or mental disease, whether congenital or acquired.

This co-ordinating role of the general practitioner could be illustrated by describing an imaginary round of home visits. Dr. Stokoe emphasised that the patients described were hypothetical but typified in all their complicated detail the way problems were presented and tackled.

First the imaginary doctor visited two hemiplegic patients living at home. The first was a chair-bound middle-aged man, living in a ground floor flat with his wife and three young children. After a successful operation for treatment of a brain tumour he had been left with a severe permanent left hemiplegia, and, though wheelchair-bound, was cheerful and mentally fully alert. He had been discharged from the physiotherapy department, having achieved his maximal improvement, and the emphasis was now less on mechanical aids to living or continuing medical treatment than on

psychological help in the finding of a job, trade or occupation to help morale as well as finances. More information would be welcome on opportunities for work that could be done at home with reasonable job satisfaction. Productive employment was far preferable to, for example, voluntary supervision of classes in a boys' club.

It was necessary to encourage a patient of this kind to re-learn the necessary ordinary everyday skills with the minimum dependence on mechanical aids. For a chair-bound patient the question would have arisen of asking the local works' department to widen the bathroom door. There was also the necessity of providing modified cutlery and clothing adapted for ease in dressing and undressing. Another problem concerned transport; a patient whose disability limited him to controlling an electric vehicle whose batteries required frequent re-charging might not have had the necessary garage space. The question of suitable rehousing might also have arisen.

The second home visit on this imaginary doctor's round was to a middle-aged disabled professional man who also had completed his hospital treatment and physiotherapy. Having progressed from a right hemiplegic, initially bed-ridden and dysphasic, to a person now with limited outdoor mobility and talking well, he had been told that he had now achieved his maximal rehabilitation and should be fit to resume his work - encouragement which was understandable but unrealistic. Dr. Stokoe outlined the kind of problems remaining where the sympathetic and wise family doctor could play an important part. A previously right-handed patient whose profession necessitated much writing would have to learn to write left-handed. Even for a patient who had been able to discard his caliper and could now use a tripod walking stick, using stairs, catching a bus to work, and walking a few hundred yards up a steep hill would require considerable time and effort, the extra strain of which could precipitate a further stroke.

Here again the general practitioner's job would be very much concerned with psychological aspects and the need to stimulate and provide a renewed interest in living. More important perhaps than advising on modifications to the home would be to arrange a discussion with the local Disablement Resettlement Officer regarding retraining and opportunities for a new job. An alert and intelligent man who had been a previous car owner would need referral to a clinic for assessment for a special motor vehicle, not too near the ground, conferring a new interest in life, greater mobility and flexibility regarding a return to a job. It seemed surprising that the vehicles supplied for the disabled continued to be the rather unstable three-wheelers.

A visit to a 60-year old amputee served to illustrate the importance of home adaptations in daily living. This imaginary patient was disabled by reason of extensive arterial disease and an arterial embolism which had led to his left mid-thigh amputation. Although rehoused promptly from an upper floor to a ground floor flat, the patient had been unable to bath because of the unsuitable bathroom with its old-fashioned high sided bath. Experience showed that the installation of a new bath with handrails and a step could involve much delay. In this connection a seat in the bath was often invaluable, as were taps with a good lever action.

Dr. Stokoe conjured up one further home visit to an elderly paraplegic patient, bed-ridden for more than twelve years. Having damaged his

back by a fall at work resulting in severe psychological and physical disability complicated by advanced chronic bronchitis, this patient presented considerable medical, nursing and supportive problems. Here good family support could transform a difficult nursing problem into one which could be managed more easily. For this bed-ridden patient aids to his disabilities and to living included a back-rest obtained from the local authority, a monkey pole fitted to the foot of the bed whereby he could pull himself up, and a wheelchair to give him access to the W.C. (preferred to a bedside commode), but most important perhaps a television set to take him out and about in the world outside. A home help might not be necessary but for periods when the family was out a sitter-in might be required whose only job would be to keep a watching brief for a few hours. Dr. Stokoe queried whether there was a source he could approach for such a sitter-in.

Aids for the disabled were not restricted only to those items which helped in daily living, such as extended shoe horns, stocking or sock pullers-on, elastic shoe laces, zip fasteners with leather thongs or rings, heights of shelves, arrangement of kitchens, etc. There was also a need for aids to recreation and, perhaps, for an occupational therapist skilled especially in developing recreational pursuits for disabled patients in the home and in long-term hospitals, (similar to an experiment in a geriatric hospital in the West of Scotland). For example, a blind patient experiencing an understandably difficult period of mental readjustment and depression on losing his sight could be greatly helped by talk books and wireless provided by the Society for the Blind. Dr. Stokoe had seen such assistance transforming a patient and leading to a much fuller and more active life.

In some cases disabled patients could draw on specialised assistance. For the spastic child, help with education and holidays was available from the Scottish Council for the Care of Spastics. Special associations existed to help epileptics and diabetics, and patients with ileostomies. Sufferers from multiple sclerosis on the other hand needed help at all levels - hospital, local authority, general practitioner and voluntary association - involving special aids and often the provision of clothing and appliances to help in control of troublesome incontinence. Arthritics were another category of patient, like the hemiplegics, for whom adaptations were often necessary, and simple aids could be of very considerable assistance. On the other hand there was the problem of the mentally defective child where considerable support had to be given more often to the family than to the patient.

From this review of the problems of some imaginary disabled patients Dr. Stokoe drew some general conclusions. The general practitioner was concerned first with diagnosis, which might involve the hospital, and then with any necessary treatment for the condition and any associated diseases. The family doctor should carry out a continuing assessment of the disability which may not necessarily be static. Mechanical aids might be necessary only for a limited period or might increasingly be required with increasing age and frailty. This follow-up care was important also to support the family during a period of personal strain. Encouragement of self-reliance both by patient and by family could stimulate remarkably good results. Patients could frequently be helped by reading of the experiences of others and booklets were available from the Chest and Heart Association (with an office at 65 Castle Street, Edinburgh, 2), and the Central Council for the Disabled (34 Eccleston Square, London, S.W.1.). The Scottish Hospital Centre's library had a comprehensive list of references. Advice on dressing and clothing

problems could also be obtained from the Disabled Living Activities Group of the Central Council for the Disabled (39 Victoria Street, London, S.W.1.).

When considering a gadget to help in daily living, simplicity and cheapness often went with efficiency. There were, for example, some very elaborate alarm systems for elderly, frail persons living alone who might fall and require to summon help, but the simplest alarm system was a good whistle on a string around the neck. It was only for paraplegics and some upper-limb amputees that there was often a real need for more complex and sophisticated equipment, but even here the doctor's efforts should be directed very much towards encouraging the patient's morale.

Lastly, Dr. Stokoe commended "the small pink booklet" (edited by E.V. Kuenssberg and M.P. Innes and issued by the Edinburgh Executive Council) prepared for all general practitioners in Edinburgh giving a list of facilities for mental health problems and the care of the young and old, the chronic sick and the aged. A similar list should be available for every area, as an individual was unlikely to be aware of the full range of help available.

MISS D. NORTON, Nursing Officer, Scottish Home and Health Department, had studied for nearly ten years the practical problems of nursing the elderly and the disabled. She distinguished between aids for the physically handicapped (primarily intended to help the disabled themselves to achieve as much independence as possible) and basic nursing equipment (intended to help other people to care for the physically handicapped). Miss Norton considered this second (nursing) category first.

While nurses should not succumb too readily to what Dr. T.N. Rudd had called "the lure of the mechanical device", technological science could provide tools to improve the application of the basic act of nursing - the combined use of the head, the heart and the hands. However, it could be assumed that new pieces of equipment arriving on the market had been scientifically developed and properly assessed by systematic field trials. Most "aids" resulted from inventions or improvisations designed for one particular individual or problem. Others owed their existence to a manufacturer becoming aware of a potential requirement, and in the absence of authoritative analyses of the relevant problems, developing solutions on the basis of such advice and information as they could glean. Such items frequently lacked general application, not for want of ingenuity and design skill but of appreciation of the operational constraints. Disappointment for both the manufacturer and the purchaser resulted in the first instance from an inadequate brief and in the second from errors in selection.

It was important to review constantly what was best for a particular patient at a given moment in time. Aids could frequently act as supplements to human attention but should not be accepted as substitutes for it. Moreover, the greater the hope raised by some new piece of equipment, the greater the disappointment if it failed to have the usefulness expected. Equipment for the disabled should not become too complicated for people to manage, and all the implications of a problem should be understood. For example, an important determining factor in the design, size and material of a hospital nightgown might be the available laundry facilities.

Maximum independence for the physically handicapped required an appraisal of the total physical environment. Many aids attempted to overcome problems which might not have existed had the physical environment been geared to disability. For example, lifting devices might not be required if the patient's bed was of a convenient height, or if the arms of the wheelchair were removable to allow the patient to slide from bed to chair, or if baths and bathrooms were adapted to physical limitations. (The bathing problem arose frequently in relation to geriatric wards. It was Miss Norton's opinion that the bathroom should allow for more than one method of bathing to take account of varying degrees of disability, remembering however that for some patients the blanket bath may be the most appropriate).

Dressing was a field of activity where a number of aids were available, but it was coming to be recognised that many dressing problems could be overcome by the re-design of garments - an approach illustrated in the current exhibition at the Scottish Hospital Centre. Modern fashion was liberal and flexible, and the wise shopper would now find functional fashions for the physically handicapped in the general commercial range of garments. In this way the need for dressing aids could be reduced or avoided.

Eating was another activity where there was an extensive range of aids. Some feeding aids were undoubtedly invaluable, for example, large handled cutlery for the rheumatoid arthritic hand or the non heat-conducting beaker with handle large enough for four fingers, but nonetheless more attention to the manner of serving food could overcome many difficulties. In this connection the individual's seating position in relation to his plate was all-important. Chair and table must be considered together and their heights properly related to enable the diner to lean over his plate. With chairs of different heights to suit individual needs and varying personal measurements it might be appropriate to supply individual cantilever tables which are adjustable in height.

This emphasis on the need for a full analysis of practical problems did not imply any resistance to the use of aids but sought to place them in their proper perspective, and Miss Norton ended with Le Corbusier's comment that when a problem was properly stated, in our epoch, it inevitably found its solution.

DR. J. SIMPSON, Consultant in Physical Medicine, Director of the Physical Rehabilitation Unit, Uddingston, discussed rehabilitation which he saw as a specialised form of therapy - applied social medicine based on the techniques of medical bio-physics. It was a complex of the processes needed to restore an individual to a position of utilising his maximum, physical, psychological, social and economic potentials. The multiplicity and extent of the services required to achieve this purpose were directly related to the magnitude of the disability and handicap; in some cases only a few services were required - in others many.

A medical rehabilitation unit consolidated a combination of specialised services in one place with trained staff and appropriate equipment for remedial exercise, physiotherapy and occupational therapy. Any large hospital had, to some extent, the departments essential to a rehabilitation unit - physiotherapy, occupational therapy and medical social work. The development of an attitude of mind committed to active and progressive rehabilitation called for a medical director in charge to bind these departments into one organic whole.

Experience suggested that a medical rehabilitation unit should have a mixture of 60% short term and 40% long term cases. General practitioner referrals to the unit should be encouraged and the unit would be concerned with:-

(a) short term and long term traumatic and orthopaedic cases,

(b) patients with arthritic and rheumatic conditions where the disease process was stabilised,

(c) patients suffering from residual disabilities following acute medical and surgical conditions, and

(d) patients with chronic handicap - cerebral-vascular accident, multiple sclerosis, etc.

It was important that the patient should see the total rehabilitation process to be continuous - from the illness which resulted in his disability to his final return to work in either his former occupation or in some other suitable employment. This required a very close association between the medical rehabilitation unit and a neighbouring industrial rehabilitation unit of the Department of Employment and Productivity.

It was not very common in this country for a full rehabilitation service to be integrated into a general hospital. Doctors rarely thought of rehabilitation as a continuing phase of therapy. Rehabilitation centres seldom became involved with a patient until the late stage of convalescence, which was not ideal for successful rehabilitation. A barrier to the acceptance of rehabilitation services in general hospitals was the essentially crisis-orientated and episodic nature of medical treatment. It was necessary in hospitals to establish a method of identifying cases that required rehabilitation services, to provide personnel and facilities for these services, and to establish in the hospital an atmosphere conducive to their proper use.

Dr. Simpson referred to his experience in the United States where a rehabilitation unit with "hostel", not "hospital", beds was established in a small community hospital which then had 100 beds - now 200 beds - covering all specialties. Consultants were at first reluctant to take an interest in discharge planning but a helpful factor was that doctors were accredited by the hospital. A discharge committee was set up which enabled the chief of the rehabilitation service to ascertain from nurses in each particular department who had been in hospital during the last six days. This collaboration with the nurses proved quite effective but there was a problem when patients left hospital as social service was not well developed in the United States. A "nursing co-ordinator" was needed to co-ordinate services outside the hospital and the appointment of a public health nurse for a few local areas was an advantage to the community.

It was noticeable that the physicians came to accept the rehabilitation service as an integral part of the hospital's pattern of work and began to offer in advance information about patients "in the pipeline". In this country links between the rehabilitation unit and hospitals had been established through the registrars rather than the nurses, and this also was resulting in smooth co-operation.

MR. W. SYME, Principal Welfare Officer, Corporation of Glasgow, spoke of the services provided for the disabled by local authorities under the requirements of Section 29 of the National Assistance Act, 1948. Disabled registers were maintained by all authorities, but registration was not compulsory.

There were various degrees of disability. Some disabled persons could take up open employment, whereas others were only suitable for reserved employment. For those with more severe disabilities, such as the blind, there were sheltered workshops in various towns. Persons unfit for work could be helped by local authorities in various ways such as the adaptation of their houses or help towards recreation. Where appropriate, local authorities could appoint voluntary organisations to act as agents in the provision of services for the disabled.

In 1948 when the Act came into force, some powers (e.g. the provision of residential accommodation for the aged) were obligatory, whereas the section dealing with handicapped persons was permissive, with the consequence that services for the disabled tended to lag behind. In Glasgow, services for the blind and the deaf and dumb were already being provided by very good organisations and the Corporation supported them with financial grants. In 1950 a start was made towards helping other disabled people. A system of ascertainment was necessary, and the local authority was notified about children attending special schools when they reached 16 years, and prior to leaving school some assessment was made of what help might be appropriate. It was found that almost 5% of these children required institutional care on leaving school, while 80% were able to take their place in local employment and in society. The remaining 15% did not need special care but were not suitable for open employment. The first consideration was to ensure a continuation of the educational system. Glasgow established an occupational centre which took 100 boys over 16 years old and provided them with occupation and gave some relief to their families. A similar centre was later established for 80 girls.

Home-bound handicapped presented problems in that they were difficult to locate as they were not necessarily notified. Co-operation with Disablement Resettlement Officers, family doctors and voluntary organisations was helpful in this respect, and visits to handicapped people showed up a major limitation which they shared in common, namely that they were prisoners in their own homes. People had been found who had not left their houses for up to ten years; their only contact with the outside world was through the television screen. It was considered that a major contribution to the well-being of these disabled people would be to get them out of their houses and into a social club. Specially fitted small vehicles were provided to transport disabled people to the club and it was soon evident that they greatly appreciated seeing the outside world again and meeting others with similar handicaps.

The success of the first club soon led to the establishment of others. The clubs were self-governing and met three days a week. About half of their time was devoted to occupational therapy and half to social activities. One of their enterprises was to arrange a special theatre evening for handicapped people, and the Corporation's welfare staff were able to find a theatre in Glasgow accessible to wheelchairs where the management was helpful. The handicapped people arrived before the rest of the audience and stayed after the performance and this arrangement worked very well. Enthusiasm mounted, and various voluntary and statutory organisations co-operated to arrange a supper evening, and artists from the theatre came to provide an evening's entertainment.

In 1957 the Corporation employed its first domiciliary occupational therapist, and there were now eight, much of whose work was concerned with visiting people in their homes and advising on the provision of gadgets and self-help aids. In 1968 expenditure on adaptations to houses for disabled persons was approaching £3,000 but this was barely scratching the surface of the problem. There were only 1,196 names (excluding the partially sighted, the deaf and hard of hearing) on the handicapped register out of a total population of 986,000.

There was great need to look at the problem of ascertainment in the future, and to improve accessibility into public buildings, shopping areas, etc. Whereas existing powers were permissive it was encouraging to note that Section 12 of the new Social Work Services Act, 1968, gave local authorities very wide powers to provide social welfare, advice, guidance and assistance on such a scale as might be appropriate in any area.

MR. W.J. FINDLAY, Edinburgh and South-East Scotland Group Disablement Resettlement Officer, Department of Employment and Productivity, stated his Department's belief that the prospects of success in a settled working life for handicapped people, whether youths or adults, related to the extent to which they could be treated as normal individuals without limitations. There were some 900 Employment Exchanges in Great Britain in each of which there was a trained Disablement Resettlement Officer (D.R.O.) specially concerned with implementing the provisions of the Disabled Persons (Employment) Acts 1944 and 1958. Their specialist duties included advising disabled persons and helping them to obtain suitable work; this service was available to any disabled person whether employed, unemployed or sick. In smaller offices with a relatively small amount of this specialised work, the D.R.O.s were part-time and grouped under a full-time Group D.R.O. who was similarly available to any handicapped person in the area.

Every disabled person had the statutory right, which was voluntary, to be placed on the register of disabled persons which was maintained at each local office of the Department of Employment and Productivity, and the special employment provisions of the Disabled Persons (Employment) Act 1944 applied only to those disabled persons who were registered. To assist in his assessment of a handicapped person's employability the D.R.O. relied on medical reports from the regional medical service of the Scottish Home and Health Department, the family doctor, or the hospital concerned. In the light of this medical evidence he might suggest that the person's prospects would be enhanced by a course of industrial rehabilitation followed possibly by a course of vocational training. There were three Industrial Rehabilitation Units in Scotland, at Granton, Edinburgh, with 100 places, at Hillingdon, Glasgow, with 200 places, and at Bellshill, Lanarkshire, with 100 places. The essence of their work was to instil confidence and assess suitability for various types of work, and the three units were currently dealing with some 2,000 cases each year.

At each Industrial Rehabilitation Unit the abilities, attitudes and interests of the individual were identified by an occupational psychologist who could give vocational guidance by steering the handicapped person's mind towards future employments within his scope.

Personal, social and domestic factors which could influence the rehabilitee's attitude to his course and to his work were assessed by a social worker. It was a basic concept of industrial rehabilitation that workshop activities should be realistic, simulating the tempo and environment of industry, and it was the concern of the chief occupational supervisor to see that the workshops functioned as production units, maintaining industrial discipline and output. Different sections, each under an occupational supervisor, covered machine operating, fitting, assembly, woodwork, clerical work, etc. The rehabilitation team held weekly case conferences to consider what form of employment or training should be recommended, and the Disablement Resettlement Officer or Youth Employment Officer at the Employment Exchange co-operated by placing rehabilitees as quickly as possible after they completed their course of industrial rehabilitation.

Short assessment courses of up to five days were also available to handicapped young persons living within daily travelling distance of the three Rehabilitation Units in Scotland. These enabled a quick assessment of the young person's intelligence, aptitude and physical capacity to be sent to the Youth Employment Officer based on psychometric tests, interviews by the occupational psychologist, and practical tests in the workshops.

Vocational training was quite distinct from industrial rehabiliation in that it aimed to teach a recognised trade or skill. The first Secretary of the Department of Employment and Productivity was empowered to provide direct training facilities or to finance its provision by others. There were now nine training centres in Scotland, compared to only one six years earlier, covering 50 different occupations recognised by Trade Unions.

Training for severely disabled people was available in four residential training colleges at Durham, Mansfield, Leatherhead and Exeter. These were open to disabled people from Scotland, and the two latter colleges had junior sections for young people who might have had limited education because of their disabilities and hospitalisation. These four colleges were operated by voluntary organisations; their further education component was financed by local authorities and the vocational training by the Department of Employment and Productivity. Great praise was due to the British Red Cross escorts and to British Railways for their assistance to disabled travellers to and from these centres.

For those who were unable to attend a training centre or residential college or who required training in a subject not provided directly by the Department, courses could be arranged on an individual basis at technical and commercial colleges, and short courses for semi-skilled employment could often be arranged at employers' establishments.

Although ordinary employment in industry was the first objective, there were inevitably those who, because of the severity and nature of their handicaps, would never be able to compete on equal terms in open employment. For those who were able to work a normal five-day week, the alternative was sheltered employment, and the Department had powers to provide appropriate facilities which it did in various ways. A non-profit making company, Remploy Limited, was set up by the Minister of Labour in 1945 with loans to cover capital expenditure and an annual grant to cover trading losses. Ten of the company's 89 factories were in Scotland giving employment to severely disabled persons producing articles for the ordinary commercial market or for sub-contracts to industry and the Government. In addition, the Department also gave extensive financial assistance to approved

voluntary organisations and local authorities to set up sheltered workshops. Mr. Findlay referred to some examples of grant-aided sheltered workshops such as the St. Jude's Laundry in Edinburgh for spastics, operated by the Scottish Council for the Care of Spastics. Sheltered employment for the blind was provided by the Scottish Braille Press in Edinburgh and at five workshops situated in Aberdeen, Dundee, Edinburgh, Glasgow and Inverness, and there were three Blind Persons Resettlement Officers in Scotland specialising in placing the blind in open industry or in sheltered employment.

There was close liaison with education authorities so that D.R.O.s could play an effective part in finding employment for disabled youngsters on leaving full-time education, and there was also close liaison with voluntary organisations whose activities could greatly affect the employability of disabled people. Examples of this were a Rotary Club which paid for a telephone which enabled a paraplegic to run an agency for variety acts, and also the work of the Simon Square Centre in helping to bring youngsters up to Industrial Rehabilitation Unit standard and eventual employment which they might otherwise never have achieved. Employers constantly proved very helpful in adjusting jobs and equipment so as to provide employment for the disabled, and local authorities helped materially by such actions as relaxing parking restrictions for disabled persons to allow them to get to work.

MR. M.J. BEESE, Design and Equipment Officer, Scottish Hospital Centre, traced the process of designing equipment for the disabled back to the original specification. A good specification was all-important in the eventual production of something that would be truly fit for its purpose, yet - certainly as far as equipment was concerned - the specification was possibly the most neglected aspect of the total design sequence simply because it was frequently remarkably difficult to elicit and then state a simple functional requirement. It was necessary to ask simple, basic, even apparently naive questions - "what are we trying to do?".

One could see examples of equipment which had developed over the years with successive modifications to the original concept to make use of new technologies. Mr. Beese suggested that far more effective solutions would result from appraising problems from first principles. An enquiring mind unprejudiced by preconceived ideas was the best generator of good design. Stating problems in simple terms left little room for confusion of purpose or preconceptions. Hippocrates was supposed to have been the first to use the medical sheepskin, but only a direct appreciation of the basic problem - "avoid pressure sores" - gave rise to the variety of methods presently available: rubber rings, hourly turning, back rubbing, stryker frames, Circo-electric beds, "hover" beds, alternating pressure pads, tilting under-mattress. These methods achieved various degrees of success in varying degrees of sophistication with attendant degrees of cost in time and money.

It was no coincidence that much of the best contemporary design was associated with industries and technologies unencumbered by tradition or history. Three essential elements of good design were fitness for purpose, appearance and cost-consciousness. Again, it was no coincidence that these were often combined with one characteristic: simplicity.

DISCUSSION

The general discussion was opened by DR. J. WILLIAMSON, Consultant in Geriatric Medicine at the Eastern General Hospital in Edinburgh. The papers presented to the conference had shown how complex was the subject of helping disabled people to achieve independence. Society had created barriers, and the problems associated with physical and psychological handicaps were complicated by numerous regulations. There was a need for an effective information service available to disabled people, relatives, doctors, health visitors and others, and it was hoped to establish such a centre at the Royal Victoria Hospital, Edinburgh, in 1971. While general practitioners could act as co-ordinators, they were not all willing in practice to follow up diagnosis with the kind of support of patient and family described by Dr. Stokoe, and Dr. Williamson made a plea for this aspect of the family doctor's work to be incorporated in medical training together with instruction in geriatric medicine. Although much had been achieved, the doctor's role was frequently seen as one of purely therapeutic and diagnostic medicine. There was a temptation not to accept old people as the young doctor's business, and many of the profession failed to consider rehabilitation. Dr. Williamson's experience of working with Disablement Resettlement Officers on behalf of the disabled had been very rewarding, and he regarded this kind of co-operation as one of the most effective achievements of his career.

During the lunch interval members of the audience had had the opportunity to examine the wide range of aids and equipment being shown in the current exhibition at the Centre and there now followed a wide ranging discussion with contributions from the hospital, general practitioner and local authority services, from voluntary bodies, from equipment manufacturers and others interested in the care of the disabled. Principal points to emerge from the discussion included the following:-

(1) Information

Uncertainty was widely expressed as to the existence and available sources of supply of aids and other help for the disabled. Contacts in different areas were built up by those interested at the personal level but there seemed to be no comprehensive national basis for the supply of information, equipment or funds.

(2) Home adaptations

There was wide variation in the performance of authorities carrying out alterations to houses for disabled people. Varying practices from one area to another led to confusion in calling upon their services. There was evidence both of speedy co-operation and of inexplicable delay. Sometimes the authority quickly agreed to the request for an alteration but its execution was long delayed; sometimes the reverse was the case and delay was associated with obtaining financial approval. It was noted that alterations to owner-occupied houses could not always be paid for privately - as for example with elderly retired people. There was a need for balanced judgement of the case for home modifications, especially for the old when circumstances could change abruptly. The case was stated for an assessment centre where solutions could be tried out for particular disabilities.

(3) Co-ordinated rehabilitation

There was a need for co-ordination of the expertise and services available for patient rehabilitation. The effective follow-up of patients called for doctors to take an active interest in rehabilitation; the key to this lay in medical training. Proper rehabilitation depended on assessment in the home by trained people having good liaison with the hospitals, and it was important to have a good follow-up and instruction in the use of aids by, for example, health visitors and district nurses.

(4) Health centres

Health centres might become a focus of rehabilitation, although doubts were expressed as to whether the present conception of health centres provided for full rehabilitation. Links were important between, for example, general practitioners and health visitors on the one hand and hospital consultants on the other, and discussion of questions of rehabilitation might appropriately take place in pre-discharge wards at hospital. Reference was made to the implications of the kind of integration of the health services advocated in the Government Green Paper "Administrative reorganisation of the Scottish health services".

(5) Need

Present local authority services (direct or through agents) hardly coped with the known disabled, and there was evidence from Selwyn Goldsmith's work in Norwich that a very large number of disabled persons remained unknown to those who could help them.

(6) Transport

There was widespread criticism of the familiar blue invalid three-wheeler, and it was noted that the option existed of taking a £90 car conversion grant. It was argued that in many cases specially modified production cars could confer greater independence on disabled people.

(7) Ascertainment

It was important wherever possible to anticipate trouble and prevent disability from building up. The need for help should be recognised before disability became advanced. There was a lack of an adequate method of identifying those who needed rehabilitation.

(8) Equipment

Rational development of equipment needed a multi-disciplinary approach. In some cases the necessary skills could fairly easily be brought together - as for example - an orthopaedic surgeon and bio-medical engineer at a limb-fitting centre. Doctors and disabled persons themselves were the most numerous designers of aids for the disabled, but such aids were frequently one-off creations with little general application. Reference was made to the finance of research into equipment in America by industry.

(9) Voluntary services

There was much appreciation of the financial and practical help given to disabled persons by such organisations as the Boy Scouts, the British Red Cross, Rotary Clubs and The Round Table.

Scottish Hospital Centre
April, 1969.

Consultant activity review statistics

Meeting at the Scottish Hospital Centre on Friday, 16th May, 1969.

The development of an operational research approach in hospitals has been slow. There is need for all to co-operate in this enterprise and in particular, the clinician must play a prominent part. Pressure for more resources in the health service is most likely to be effective if it can be seen that serious attention is paid to the effective deployment and organisation of our professional resources. In the novel, complex and ambitious programme being undertaken by the Research and Intelligence Unit of the Scottish Home and Health Department there is a need for confidentiality, co-operation and communication. This conference in exploring the scheme sought to fill the need for communication.

DR. J.H.F. BROTHERSTON took the Chair.

DR. M.A. HEASMAN, Co-Director, Research and Intelligence Unit, Scottish Home and Health Department, reiterated the purpose in producing consultant statistics by quoting Abraham Lincoln "that the dogmas of the quiet past are inadequate in the strong present". It had been said that the greatest problem in communication was the illusion that it had been achieved and as far as this particular exercise was concerned it was Dr. Heasman's view that there had been a part failure in communication. There was a growing need to ensure that the resources devoted to health service questions were used in the most effective way to give the greatest benefit to the greatest number of patients. Simultaneously with this there was a feeling that some modern management techniques had a part to play in the health service and this was coupled with a realisation that the consultant, and to a lesser extent his supporting staff, had a very important managerial role when they made clinical decisions, because of the way that such decisions committed large amounts of health service resources.

In all managerial techniques, the provision of information took an important place and this could be coupled with the development of similar data systems in the U.S.A. and the availability of computer processing which enabled this sort of analysis to be undertaken. Up to two or three years ago the amount of analysis would have been impossible to contemplate.

All these factors first of all led the Joint Working Party on the organisation of medical work in hospitals to recommend that clinicians should be presented with readily intelligible statistical data concerning work done and that data should be available "in a form which is brief, relevant to him, to his particular specialty or to his hospital". The task of the Research and Intelligence Unit had been to try to implement that recommendation.

The clinician, without some statistical data, was often unable to see the whole picture. He was trained to deal with patients as individuals, and, with the greatest respect, in many cases he did this so well that he tended to forget, even if only partially, about the problems of the patient who was waiting for the same bed. In addition, without the appropriate information, he could not be expected to be aware of how his work compared with that of his colleagues in the same specialty.

It was hoped, therefore, that by the provision of statistics, consultants might be given some data which would be of help to them and thus indirectly to the hospital service and to the patient. This was the primary purpose of producing these data but as consultants became aware of their existence they might also be of use in other clinical research studies.

In a recent statement prepared by the B.M.A. Planning Unit, the case for more resources being required for the health service was discussed. "Such pressure is most likely to be effective if we can be seen to pay serious attention to the efficient deployment and organisation of our professional resources. From its inception the Health Service has been backward in operational research, and if a high standard of efficiency and economy is to be maintained this activity deserves energetic prosecution, enthusiastic professional participation, and widespread publicity for its findings.

Why are there such unaccountable variations from city to city and even from hospital to hospital in the frequency with which certain routine operations are performed, in the mortality from standard surgical procedures, and in the duration of stay in hospital of patients with similar diseases? Do long-stay patients with hernias or varicose veins really fare better or worse than short-stay or out-patient cases respectively, or do the more economical methods of treatment demand differently trained surgeons? Does the patient with cardiac infarction do better under the continuous monitoring of the specialist hospital unit or in bed at home with simple nursing care? At what point does population screening cease to pay dividends and become counter-productive?

These questions and many like them require answers. The answers are needed to support our demand for the facilities we need to give our patients the best that modern medicine can offer. They cannot be furnished by a Government department. Justified or not, it would almost certainly face the charge of encroaching on the doctors' clinical freedom and of special pleading in the cause of economy. The answers can come only from the profession".

This concept was accepted by the Scottish Home and Health Department. The data which were provided for the clinicians' benefit alone were intended to highlight variations in practice. It was not suggested that the mean was the ideal at which to aim, but the variations could be explained and discussed only in the light of local knowledge. An attempt was being made to enable clinicians to compare some parts of their work with that of their colleagues and in the light of this comparison and with all the local knowledge that only they possessed to start discussions with a view to the overall improvement of patient care. It was only in this way that the profession would be able to answer those questions which the B.M.A. Planning Unit suggested needed an answer.

The magnitude of the task confronting the staff of the Research and Intelligence Unit was fully appreciated. A decision had been taken against holding detailed consultations with specific professional and specialty groups prior to distributing the first collection of data for three reasons. First, it was felt that consultants would have little to discuss without having seen the material produced. Second, the computing problem was formidable. It had been difficult to produce standard output in the first instance and it was considered that with increasing experience, more flexibility could be incorporated. Third, was the

difficulty in pleasing everyone. The pressures to improve the standard of the data would come only when its failings had been exhibited. Thus it had been decided to publish prior to consultation and certain criticisms mostly known and expected had been made.

(a) Error

With the exception of errors in waiting time where a validity check had not been included in the programme, nearly every error had been found to lie in faulty completion of the form SMR1 or incorrect abstraction of data from the clinical notes. The lesson from this was the need for closer collaboration between clinical staff and medical record staff which it was hoped this conference would foster. None-the-less the general standard of recording had been remarkably high.

(b) Presentation

The lists of diagnoses selected had not always been the most useful. They were generally related to the ten commonest causes of admission in the specialty of the consultant, but this did not help the consultant with a particular interest within a specialty. In some cases the classification of disease and operation were far from ideal for the purpose.

(c) Specialties

Some specialties, in particular dermatology and radiotherapy, were particularly difficult to deal with in the way adopted. Dermatological practice was largely out-patient consultation. Radiotherapists worked in a similar manner but also on a referral basis.

(d) Consultant allocation

In some hospitals consultants worked together so closely that specific allocation was meaningless. Perhaps because Records Officers allocated cases to the consultant in clinical charge or because the consultant in charge was still a power in the land, some consultants were shown as having very few cases and others having far too many.

It was hoped that these and other problems could be overcome with the help of the clinical staff.

Nothing that had been said or done was intended to retard local development of statistical reviews. Indeed this was to be encouraged and both local and central processing should go hand in hand each having an important part to play.

What had been done was carried out for the profession and at the request of the profession in the form of the Joint Working Party. The programme was novel, complex and ambitious. Many snags would emerge before the process ran smoothly. If the new partnership between clinician and operational research worker was to be effective, patience and a constructive dialogue were called for.

DR. J.D. DONNELLY, Medical Officer, Research and Intelligence Unit, Scottish Home and Health Department, in introducing an account of information flow in the Scottish hospital morbidity records scheme, drew attention to the lack of awareness on the part of clinicians of the morbidity statistics collected in Scotland, how or why they were collected, or what was eventually done with them. In order to ensure that subsequent papers were heard and discussed to advantage it seemed necessary to preface them with a brief account of information flow in the in-patient morbidity record system.

When a patient was discharged from an N.H.S. hospital in Scotland a form was returned to the Research and Intelligence Unit which summarised some aspects of that episode of in-patient care. The form (SMR1) was designed to be at once a data source document and a case record front sheet which identified the patient and recorded in structured form some demographic data, some administrative data, and some clinical data relating to the episode of hospitalisation. In addition, space was provided to record further information in unstructured form at the discretion of clinicians. The form was presented in duplicate on self-copying paper so that one copy might be forwarded to the Research and Intelligence Unit as a data source document and the other retained in the medical case record as a front sheet. When the former were received in the Unit via Regional Hospital Boards they were counted, scrutinised for errors of omission and obvious errors of commission and the patient's occupation was coded. Forms discovered to be in error were either corrected or sent back to the hospital of origin for amendment. Thereafter the forms were sent to the computer installation where the information was punched on to standard 80-column Hollerith cards. The punching was then verified. The cards were fed into the computer where the information was subjected in turn to validity and feasibility checks. Forms whose information content failed to satisfy these tests of validity were rejected as being in error and were returned for correction to the Unit and in about one per cent of cases to the hospital of origin for correction. When corrected, the forms were fed back to the computer and were again subjected to the same tests of validity before being passed to the main data file which was held on magnetic tape. When the file for a calendar year was complete the data was processed to yield:-

(1) National and Regional morbidity statistics for publication.

(2) Annual statistics for individual hospitals.

(3) Hospital disease indexes.

(4) National disease index.

(5) Ad hoc analyses of the data, undertaken on request from clinicians, administrators and research workers.

(6) A cumulative record linked file for future analysis.

(7) Scottish consultant activity review statistics - the most recent development.

With the production of hospital disease index and consultant activity review statistics what was previously an information flow had become a "live" information cycle with data being returned for use to the clinicians who generated the data in the first instance. Thereby inaccuracies which were previously cloaked in the anonymity of statistics came to light.

Form SMR1 contained 23 items of information which could be classified as indicative or patient identifying, social demographic, administrative, and clinical. Clearly all errors in recording this information could be detected by clerical scrutiny and rescrutiny but this was impractical. However, the items of information might be classified in an alternative way. For example, there was no logical association between such items as name, case reference number and area of residence so that within limits any combination of these items is equiprobable and valid. But there were logical associations between such items as age, sex, diagnosis, operation, source of admission, duration of stay and condition on discharge, such that the combination of items recorded on the form could be subjected to tests for internal logical consistency. It was at least highly improbable that a form had been correctly completed which stated that a male aged 92 was discharged alive from a neuro-surgical unit having been delivered of twins by Caesarian section after admission from a waiting list. This absurd example illustrated the principles which underlay the use of a computer in detecting errors in raw data by subjecting the items of data in combination to tests for internal logical consistency. Thus the information in the form could be divided into that which contained error undetected and undetectable by computer methods and secondly that information which contained error most of which could be detected by feasibility tests of the kind described. Currently the detected error rate was about 12½ per cent of all forms received. It was important to note that the majority of all erroneous forms contained only one error. Thus the detected error rate for items as opposed to forms was about ½ per cent. This surely reflected great credit upon the work of Records Officers and their staff.

There had been delays in the past of up to eighteen months in the turn round of data. In the early days some of this delay was due to difficulties in elaborating appropriate computer routines. This difficulty was now overcome and the principal cause of delay in turnaround now was delayed inflow of forms from the hospitals. The monthly rate of inflow of forms to the Research and Intelligence Unit should approximate to the monthly rate of discharge of patients. In fact, forms were returned in small numbers in the first half of the year and in ever increasing numbers in the months thereafter so that an early trickle became a late flood with very substantial spill-over into the following year. Delays in the system were cumulative and no amount of effort could recover time lost in the beginning. With the co-operation of medical staff and medical records officers in ensuring a smooth inflow of discharge records, the backlog could be over-taken so that a normal schedule of operation could be achieved which would permit the out-turn of unpublished data within three months of the end of the calendar year to which it referred, this to be followed by the publication of national and regional data within three further months. Errors and time lags certainly merited criticism but the scale of the operation had to be borne in mind. About three quarters of a million discharge records were returned to the Unit every year consisting of some 600,000 discharge records from general hospitals, about 100,000 discharge records from maternity hospitals and a further 50,000 records from mental hospitals.

Changes in the overall pattern of disease and shifts in the pressure of workload were virtually imperceptible to the clinician. For example, in the condition of aplastic anaemia, were any hospitals in Scotland able to supply the annual number of patients discharged with this condition over the past seven years, and were the most sensitive tests of significance for trend applied to these figure, no evidence of positive trend would result. However, were the data for every hospital in Scotland pooled and the test for trend again applied, a positive upward trend in the number of male patients discharged with a diagnosis of aplastic anaemia would be apparent. This observation would be a starting point for a clinical research project.

By the nature of its activities the health service and the medical profession within it were engaged in a race up the down escalator. Alternatively, they were pursuing horizons that receded continually under the impetus of their own efforts. The shortages and crises of today were neither novel nor transient but had their roots in history and their sequelae in the future. The truth that the profession was caught up in a historical process was well argued by Ffrancon Davies in a prophetic and much neglected little book called "The Cost of Health". It followed that the medical profession must be continually concerned to deploy and redeploy its resources in containing an unwinable war. In Scottish Consultant Activity Review Statistics efforts were being directed toward the creation of a vehicle of statistical medical intelligence that would alert clinicians collectively and individually to change in the pattern of disease and to imperceptible shifts in the pressure of their workload so that in the light of this knowledge they might organise their work in the most effective way. What had been done so far was to create a prototype of this vehicle for further development.

MR. IAN LAING, Records Officer, Western General Hospital, Edinburgh, described the role of the Medical Records Officer in the preparation of data from which activity review statistics were prepared.

In the early days of the scheme the form SMR1 was regarded by many people, including the medical staff, as yet another form to complete. The Records Officer had an extremely difficult task to set up a system which would allow him to complete this form with any degree of accuracy. Feedback from the Central Department was poor with delays of two to three years and when the analysis arrived it was full of inconsistencies. The scheme was subjected to a great deal of ridicule which reflected on the Records Officer and his staff. Error checks now carried out by the Central Department had fortunately eliminated reports of men suffering from gynaecological conditions.

In conjunction with this scheme most hospitals had set up a local disease and operations index. These indexes were rarely used and their accuracy was regarded with suspicion. It was not surprising that many Records Officers became discouraged.

The position today was a little better. The relationship with the Home and Health Department had improved in that more frequent error-check material was received and the feedback of information was better and quicker than ever before. Last year a complete computerised version of the 1967 Disease and Operations Index was received for the first time. It was more than adequate for local needs and as a result many of the manual indexes had been discontinued thus allowing concentration on the completion of SMR1 forms in the future. Nevertheless medical records officers continued to complain of many difficulties arising from the completion of these forms.

Some hospitals had to rely on nursing staff or junior medical staff for the recording of basic information about the patient. This was frequently inaccurately recorded and could be so transcribed to the SMR1. There were difficulties in obtaining final diagnoses from the medical staff and often this information was extracted from the patients' records by medical records staff. It had been found that even after being given a final diagnosis by a doctor, other conditions could be found recorded in the case-notes, conditions not mentioned on the coding sheet. The presence of these conditions could possibly affect the final allocation of a code number to the principal code.

Junior medical staff were frequently unfamiliar with the structure or the specific terminology of the classification. Terms were used loosely and in consequence the clerk coded the condition under a broader heading than might be appropriate. A number of medical staff were unaware of the availability of a diagnostic index.

A disheartening thing about the scheme so far was the general lack of interest of the clinical staff which extended down through the attitude of junior medical staff, medical secretaries and even to the morbidity staff of the records department. A greater interest in the work on the part of senior staff would be reflected in a general raising of quality of the whole scheme.

The quality and accuracy of information recorded in the SMR1 was the point frequently made by those who criticised the Records Officer and his morbidity staff. Leaving aside the question of co-operation records officers had never denied that the accuracy of this work sometimes fell short of perfection but in this connection the facts relating to under-manning and absence of training for new staff merited examination. The recruiting of intelligent staff who would develop an interest in their work had become increasingly difficult basically because financial attraction was inadequate by present day standards, and there was need for a sound career structure. Specific training for the job was almost non-existent - a good coding clerk should preferably have a knowledge of anatomy and physiology and medical terminology and, above all, a sound understanding of the rules and structure of the classification. Even today with some of the most experienced coding clerks, interpretation of the coding of identical conditions differed from place to place depending upon the background knowledge of the individual and his experience of the classification. No training schemes were available for this category of staff at either local, Regional Board or national levels. This was a serious omission in an area of clerical activity in hospital where a sound training was surely essential. For the future it was almost certain that out-patient activity would be included in the scheme and that extra staff would be required to cope with the work involved. In the very near future technical resources would be improved yet no matter how sophisticated machinery became or how far our techniques for utilising this type of material advanced, dependence on morbidity staff at hospital level to extract and provide accurate information would continue. An adequate number of properly trained staff was essential if accurate work was to be ensured.

What the Medical Records Officer feared most of all at the present time was that with a greater interest in the analysis of activity statistics, additional demands requiring extensive searching and retrieval of records could not be met. With the present level of staffing in morbidity, completion of forms SMR1 alone at times involved some months of delay.

MRS. VERA CARSTAIRS, Senior Research Officer, Research and Intelligence Unit, Scottish Home and Health Department, explained the objectives of consultant statistics. These were to give the consultant some information on his own workload and to enable him to make comparison of his practice with that of his colleagues. The data were intended to highlight the variations which existed in consultants' practice and to stimulate consideration of what accounted for these variations; whether it was reasonable that wide variations in practice should exist, and whether varying practices could be assessed in terms of their effectiveness, as measured by the end result for the patient.

The data presented would illustrate variations in practice that existed. In drawing up the distributions the entire range of data had been available

to the staff of the Unit. This facilitated a more sophisticated study of the data than was possible for the individual. Nevertheless, in looking at this data, concern was mainly with comparison between the individual consultant and the national or regional data and this possibility of comparison was available to each consultant. The mass of individual statistics had been reduced to figures for the region and for a national average. This was perhaps the most valuable aspect of this statistical series; many consultants were well-informed about their own workload, but for the first time they had been given this possibility of making comparisons with their colleagues in the region and in Scotland.

Statistical information not available to consultants for comparison was that relating to size of the case-load - that is the total number of patients treated. In view of the great variety in consultant contracts, it would be very difficult to produce a meaningful figure of this kind.

In order to present the data, considerable selection from the mass of information available had been necessary. The data shown were confined to a few specialties, and a few diagnoses or operations. One of the criteria in making this choice had been that the numbers in a category should be large enough for valid statistical comparison. Also, conditions had been selected in which there was not too much variation in the natural history of the condition, and in which there was fairly general consensus on the treatment to be followed. The comparisons were confined to consultants practising in acute hospitals with more than 100 beds, and consultants had been included only if they had at least 20 patients in the diagnostic category under consideration.

There were various indices which appeared in the print-out, but measures of bed-use would be the main object of study. For diagnoses the average duration of stay in hospital was given. For operations this total period was divided up into the pre-operation and the post-operation stay. The average duration of stay after operation was stated, but data for the pre-operation period was expressed rather differently and showed the percentage of patients waiting one, two or three or more days before operation. Data on the percentage of cases operated on in surgical units, and in one case on the percentage of deaths, would also be shown.

A number of slides were presented showing the distribution of various indices of consultant practice. The following details summarise the information contained in the charts:-

(1) Specialty - general surgery: Diagnosis - peptic ulcer - males

The mean stay for Scotland was 15 days. The range for consultants was from 8 to 29 days. Regional variation was from 13 to 17 days. Consultants in teaching hospitals tended to discharge patients sooner than those in non-teaching hospitals.

(2) Specialty - general medicine: Diagnosis - peptic ulcer

The median stay in this case was 14 days, with a range for consultants from 8 to 23 days; again the median durations of stay for consultants in teaching hospitals were shorter than for their colleagues in non-teaching hospitals.

(3) Specialty - general surgery: Operation - hernioplasty - males only

The mean stay after operation was 8 days for Scotland, with a range for consultants from 3 to 14 days. For regions the range

was from 5 to 10 days. In teaching hospitals over 60% of consultants had a mean stay after operation which was 8 days or less; in other hospitals only 30% were at all below the mean. Both the mean and the median stay after operation fell at 8 days, the first quartile falling at 6 days and the third quartile at 10 days.

In 1967, 5,994 male patients were operated on for hernia and these patients occupied 47,952 bed days after operation - or 131 bed years. If all consultants followed the practice of keeping patients 10 days after operation this could consume 164 bed years altogether, i.e. another 33 beds in each year. If, on the other hand, all patients were discharged 6 days after operation then bed-use would be reduced by 33 bed years - a reduction of 25% on present bed use for this condition. Consultants should beware of accepting the mean as a measure of optimum practice, and this was, of course, one of the reasons for introducing the quartiles into the distributions for the data.

(4) Pre-operation stay

The data showed the percentage of patients who spent 3 or more days in hospital before operation. For Scotland the mean was 10%, but the range was from 0 to more than 40%. No association existed between the pre-operation and the post-operation stay - patients who had longer pre-operative care did not thereby curtail their post-operative stay. Were there good reasons for this variation in practice, which could be demonstrated by the end result for the patient?

(5) Percentage of cases operated

This statistic showed patients admitted for hernia and who were subsequently operated upon. The mean for Scotland is 91% but the range is from less than 60% to 100%.

(6) Specialty - general surgery: All diagnoses: per cent of cases operated

This slide showed the percentage of cases operated taking all diagnoses in general surgery units. The mean for Scotland stood at 67% and the range was from 30% to almost 90%. On the face of it there appeared to be good reasons for asking what accounts for such wide variations in practice.

(7) Specialty - E.N.T: Operation for tonsils and adenoids: males and females

The mean stay after operation for Scotland was 2 days but the range was from 1 day to 5 days. The commonest practice was to keep patients 2 days after operation. With the exception of one consultant, patients were kept for 3 days after operation in E.N.T. hospitals.

Data on the pre-operation stay showed that overall 6% of patients waited more than 1 day before operation, but the range was from 0 up to almost 40%. 8 consultants kept 10% or more of their patients waiting more than one day for operation. Quite substantial numbers were involved here; 21,000 patients underwent this operation in 1967.

(8) Specialty - Orthopaedics: Operation for excision of the semi-lunar cartilage - males only.

Data for pre-operation stay showed that 15% of patients waited 3 days or more for operations, but a wide range existed from 0 patients waiting this time to a consultant who kept 92% of patients waiting 3 days or more.

The mean stay after operation was 13 days with a range from 4 to 20. The small acute hospitals in this case (i.e. those with from 100 to 250 beds) tended to keep patients for shorter periods than did the large acute hospitals.

(9) Specialty - general surgery: Operation - Appendicectomy: males and females

For Scotland, the mean stay after operation was 8 days and the range was from 5 to 13 days. Regional differences were very apparent here, with surgeons in the South-East particularly tending to discharge patients after a shorter stay than occurred in other regions. It seemed unlikely that they were being presented with different kinds of patients from their colleagues in other regions.

(10) Specialty - Ophthalmology: Operation for extraction of the lens: females

Data on the pre-operation stay showed that the percentage of patients waiting 3 days or more for operations varied from nil to 100%; it did not look as though there was much agreement between eye surgeons on the most appropriate stay before operation.

The mean stay after operation was 13 days for Scotland and the range was from 6 to 17 days. Surgeons in eye hospitals tended to be grouped about the mean, those in teaching hospitals mainly below the mean, and the remainder above the mean.

(11) Specialty - Gynaecology: Operation - hysterectomy - females

The mean post-operation stay for Scotland for this operation was 14 days but the most common practice was for discharge after 12 days. One consultant kept patients 5 days after operation and another 21 days.

For the admission-operation interval, 29% of patients waited 3 days or more for operation in Scotland. A high proportion of consultants kept fewer than 20% of patients waiting for this period, but quite a number kept more than 50% of patients waiting 3 days or more and the range was up to more than 80%.

Patients who stayed longer before operation did not appear to go home any sooner, and neither of these two measures was affected by the proportion of patients transferred into these units from elsewhere. Except at the very extremes of the range there was also no correlation between the post-operation stay and the proportion of patients who had a second operation.

(12) Specialty - General Medicine: Diagnosis - myocardial infarction: male

The mean stay for this condition was 22 days for Scotland and the range was from 12 to 33 days. Regions were grouped about the mean, with the exception of one where the mean stay was 30 days.

Death rates were also shown for this condition. The mean for Scotland was 18% and the range from 3 to 44%. Consultants in

teaching hospitals appeared to have a better experience in this respect than those in non-teaching hospitals. The death rate in one region was also considerably below the rate in other regions.

It was obvious that for all these conditions and indices, many factors had to be taken into account in evaluating and explaining variations which were seen in practice. Still, prima facie, the interesting variations which had appeared did warrant investigation to identify the contributory factors, and to estimate the extent of their contribution to the variance seen. These might have implications not only for individual consultants, but also for the organisation of services.

In looking at the distributions, the extreme cases were easy to observe and in most cases were rather few in number compared with those clustering around the average. Most consultants of course would find themselves in the latter group rather than among those with extreme results. Although the average practice was a convenient standard for reference, it should not be taken to indicate the optimum practice, and the norm should not be equated with the best. The quartiles had been introduced into the print-out to give better information on the range of practice than was given by the mean or median. Consultants who found themselves somewhere near the mean should be aware that this meant that somewhere in the distributions some consultants had a shorter stay - or a lower mortality - or a higher rate of operation.

Probably no-one would dispute that a lower mortality rate (other things being equal) was a valid and acceptable indicator of a better quality of service. Not everyone felt that duration of stay in hospital was a useful index, and the staff of the Research and Intelligence Unit would not regard it as axiomatic that shorter was better. But, given these differences did exist, consideration should be given to the effect they had and which could be observed, in terms of quality of care. If shorter stay meant worse care in terms of the end result for the patient, then it was as important that consultants should know this as that they should be aware when longer stay conferred no benefits on the patient. When shorter stay did not result in less effective care, then it appeared preferable because it was making more efficient use of the resources available.

The main aims of the hospital service were identified as provision of the best possible standard of care at the lowest possible cost to the community; that is, it should be concerned both with the effectiveness and efficiency of the service. It seemed reasonable to suggest that consultants would identify themselves with these two objectives.

Consultants might be reminded again of the report of the B.M.A. Planning Unit, which suggested that pressure for increased financial allocation to the health service was likely to be most effective if the medical profession could be seen to pay serious attention to the efficient employment and organisation of resources.

The consultant activity statistics should provoke questions. For the most part they could not answer them. Their role was to act as agents provocateurs - provoking discussion among consultants about what accounted for these variations in practice; stimulating investigation to uncover the causes of unexplained differences; and encouraging progress towards the definition of the optimum management for specific conditions. The era of the clinical trial was now firmly established, and clinical trials would answer many of these questions. Where differences appeared which could not easily be explained, this should suggest a starting point for investigation.

PROFESSOR A. GOLDBERG and DR. A.D. BEATTIE, Department of Medicine, Western Infirmary, Glasgow, referred to the assistance received from the Research and Intelligence Unit in a survey of porphyria.

In 1890 a report of a patient suffering from acute porphyria was published by Dr. Vaughan Harley. In 1898 another report was published in the British Journal of Dermatology of two brothers suffering from facial erosion and porphyria. These two reports exemplified the two main types of disease - that involving paralysis, abdominal pain and neurological disorder and that involving photo-sensitivity. Since that time the disease had been divided into a multiplicity of types but basically there were two major groups - neuro-psychiatric and cutaneous.

Porphyria was a disease due to inborn errors of metabolism. Its course was significantly aggravated by the administration of barbiturates and other drugs. In a group of cases studied, more patients had taken barbiturate drugs in the "paralysed" group of patients than in the "not-paralysed" group. Drugs contra indicated in porphyria were barbiturates, sulphonamides, oestrogen, contraceptive pill, chloroquine, dichloralphenazone and methyldopa. There were as many individuals with latent disease in a family as there were overt sufferers, and the latent form, which could be traced by biochemical measurement of porphyrin precursors, could be aggravated by drug administration.

The disease presented different aspects in various countries. Porphyria was common in Bantus where it was associated with ingestion of adulterated drinks. One research worker traced a family tree for a number of South African sufferers to a couple who married at the Cape in 1688. The problem in Africa involved screening of stool specimens to avoid the administration of pentothal. The addition of hexachlorobenzene as a wheat seed fungicide had also caused disease in South East Turkey. A watch had to be kept for additives. There was a variation from one in a hundred thousand to one thousand in a hundred thousand in the incidence of hepatic porphyria and with the help of the Research and Intelligence Unit of the Scottish Home and Health Department, a survey aimed at identifying latent cases in Scotland had been undertaken.

Prior to the start of this survey, there were 49 known Scottish cases. From studies of the families of these cases, 30 more latent cases were discovered.

In 1966, 252 patients were included under the heading "other metabolic disorders" in the International Classification of Diseases. An extract of all these cases was made by the Research and Intelligence Unit, listing the names of all the hospitals to which patients had been admitted, together with the relevant case sheet numbers. A letter was then sent to medical superintendents at 61 hospitals asking if the cases were porphyrics. In this way eleven cases were identified from the 252 in the general category. The eleven cases included eight of acute intermittent porphyria and three of the cutaneous type. The patients were widely scattered. Three cases had been known beforehand and eight were in addition to previous knowledge. Physicians were then contacted, case-note extracts made and the diagnosis substantiated on biochemical grounds. It was now planned to see these patients to examine them and check on their relatives.

In the past ten years 57 cases had been collected, eleven of these with the aid of the Scottish Home and Health Department Research and

Intelligence Unit. Porphyria now had a place in the International Classification of Diseases, a register would be established, and warning could be given to prospective patients with regard to the dangers of drug therapy.

DR. I. KEMP, Fellow in Medical Administration, Usher Institute, Edinburgh, spoke on the routine collection of patient data in the specialty of orthopaedics. It had been considered possible to collect routine clinical and other data as an addendum to the Scottish in-patient summary sheet (SMR1). Such collecting of information had been in the minds of those who designed the summary sheet and other people were now working in this field. Similar data was being collected from a number of specialties in hospitals of the Glasgow Northern Group but this was not linked through the national form SMR1.

The collection of orthopaedic data was a team effort involving the computer section of the South-Eastern Regional Hospital Board, the Research and Intelligence Unit of the Scottish Home and Health Department and the orthopaedic surgeons of the Department of Orthopaedic Surgery, Edinburgh University. The patients studied would be those receiving orthopaedic care at the Princess Margaret Rose Hospital, Edinburgh. The initial study would last about a year. Modifications would then be made in the light of experience and the scheme arranged on a more permanent basis.

The national record summary sheet on which data of every patient discharged from a general hospital bed in Scotland was entered, would be used. It seemed likely that junior clinical staff would complete a form which was in part already completed and by breaking into the processing cycle of form SMR1, information could be extracted without disturbance or delay. SMR1 was printed on NCR paper to enable a copy to be made. The top sheet was sent to the Research and Intelligence Unit; the hospital retaining the copy. Using this copy, certain extra data had been added. The total number of columns used so far was 77, thus allowing all data to be transferred to a single 80 column punch card so facilitating handling by mechanical sorting and minimising delays in feedback of the data. The data of greatest interest included hospital case reference number, year of date of birth, sex, consultant in charge of case, source of admission, discharge, diagnosis and operations.

Although the first half of the form would already have been completed by medical records staff, it was envisaged that the registrar would insert diagnoses and operations plus the extra material required. In view of this dependence on the doctor the form had been kept as simple as possible in layout and should be self-coding. For such a scheme to be fully developed in the future, the case for clerical workers extracting and coding the data was clear. In turn, there were clear advantages to be gained for standardisation of medical records.

In summary, the trial would demonstrate:-

(1) How information could be extracted from national records, additional data of local interest added and the information rapidly processed and fed back with a minimum of effort and expense.

(2) How specialised projects relevant or feasible only in a local setting could make use of the national effort to collect information.

DR. A. COCHRANE, Medical Research Council, Cardiff, spoke of intelligence activities in health care and of his own work in classical epidemiology. He described clinical trials in which quantification of methods of treatment was undertaken on the basis of randomisation.

The first trial used the expected and observed method and related to drug consumption. By comparing the prevalence of anaemia justifying the administration of Vitamin B.12 during one period of time with that during another, and by measuring the actual consumption of Vitamin B.12 in the first period, it was possible to calculate an expected consumption for the second period. The actual consumption in fact was ten times greater than what might have been expected. It was a matter for conjecture as to how much of this unexpected increase was due to the description of B.12 as a vitamin.

Other studies related to the randomising of patients treated in hospital, as out-patients, and at home in an attempt to establish the optimum length of stay required. Random samples of patients were taken in each case.

One study was designed to estimate the optimum length of stay for the operation for lens opacity in ophthalmology. From samples of patients observed in Wales, an optimum stay of ten days was calculated.

A study of male patients suffering from coronary thrombosis was designed to establish whether treatment at home or in hospital offered better results. The organisation of this trial had failed at a teaching centre and was finally carried out in Bristol on males aged between 20 and 64. Random samples were taken and it was calculated that there was a large group who did as well at home as in hospital.

On in-patient versus out-patient treatment, a study on surgery versus injection technique for varicose veins was carried out. A total of 339 patients were observed and a practical problem was the establishment of diagnostic criteria. The outcome was that there appeared to be no difference in the results of treatment by injection or by surgery. The randomisation technique in this case was applied at the stage of offering treatment.

On out-patient versus home treatment, studies were carried out on patients suffering from glaucoma and from diabetes.

These trials were examples of how to develop and use data. It was not difficult to arrive at a mean but what was required was an experimental optimum. A suitable analogy was the concept of par in golf.

DISCUSSION

In opening the discussion PROFESSOR T. ANDERSON, Department of Epidemiology and Preventive Medicine, Ruchill Hospital, Glasgow, spoke as a member of the Records Standardisation Committee and claimed that nothing inspired so much emotion as case records. There must have been many clinicians who had reviewed case-notes for a series of cases and failed to find the information required. There were difficulties too for the Medical Records Officer who, in some instances, had to liaise both with the hospital secretary, and with consultants whose levels of attention varied. In general, many consultants had done little to enhance the status of records officers. There was diffi-

culty in getting busy doctors to fill up case records and the situation now was worse than in the days of the old fashioned log book. We had done little to ensure accuracy of the records system.

Little had been done by the medical profession in recognition of the change in hospital practice from times when hospitals were cheap, records were simple, and doctors' services were free. We now had complex hospitals, records and a paid medical service. The hospital was part of the community and the profession had been slow to realise that the patient in bed was in competition with others on a waiting list. The profession had been slow to accept the statistical review yet there was a futility in statistics without intelligence. The need for the clinician to be involved was clear but there was a danger in countering many genuine statistical questions with pre-formed impressions. There was a need for analysis and no progress could be made until the consultant was involved. This activity must extend to group level - only then would a meaningful answer become available.

The question arose whether medical records officers should learn something of medicine. Training appealed to some and they learned from this. But perhaps the design of form SMR1 should be altered to facilitate its completion by untrained persons. Perhaps volunteers who were already involved in medical situations in hospital could help.

All hospital consultants should become good managers. There had been a gradual change in the attitude to the management course on the part of clinicians and with increasing information available from the Research and Intelligence Unit, clinicians were now mainly convinced. There was a clear place for prospective studies based on retrospective study information.

In the general discussion the following were the main points to emerge:-

(1) Antagonism to the scheme

Definite opposition to the scheme was voiced by one member. In discussion, it became apparent that impatience with the pace of development was the basis for concern rather than objection to the aims and objectives of the scheme. Particular points raised are dealt with under relevant headings below.

(2) Medical records organisation

There was widespread support for the case for improving the position of the Medical Records Officer. Training of medical records staff had been inadequate and it might be that there was a place for a training centre. There was a need for consultants to support the case of the Medical Records Officer for improving his position. While it could be argued that records departments should have been developed prior to starting the consultant activity review, it was perhaps quickest to stretch the departments and short-term sufferance would be followed by a better deal all round for medical records officers and their staff. It was accepted that many clinicians knew little about medical records. Close liaison with clinical staff should be developed, and further examination of case-folder material by clinical staff was the point at which contact could be fostered. Good service was required; the work was time-consuming and records staff were required to perform it. Work could be saved by clear identification of diagnosis. Many hospitals had separate forms for purposes of the doctor recording diagnosis. A simple method was for the registrar to circle the diagnosis which should be put on the data sheet.

(3) Design and purpose of the scheme

In answer to the expressed fear of interference in clinical practice, absolute reassurance was given that there was no intention of using the data obtained as a basis for direction of clinicians. While the objectives of the scheme might not be clear to all, the intention was to try to help people working within the system to see the parameters. Attention was being called to what seemed to be a curious imbalance in certain parts of the system. Sometimes this could be explained by age differences or social factors but sometimes there was no external explanation. Hospital was a dangerous place and a question to be considered was whether it was right to keep a patient in hospital a day longer than was necessary. Sometimes, however, a longer stay might be indicated. There was a long-term use of these statistics for planning purposes for the benefit of patients as a whole.

On the question of accuracy of data, while there had been some false information in the returns, it was only by working with this material that it could be improved. The question of scrapping the data available no longer arose.

(4) Consultation

The question of further consultation with consultant staff was raised. The load of work involved was great and it had been decided to await the development of regional departments in addition to the Central Unit. A place might exist for a medically qualified registrar - perhaps a married woman - to co-ordinate and liaise in the matter of review statistics. The role of the medical superintendent should be considered.

(5) Diagnostic coding

There was a difficulty in correct coding of diagnosis and a longer list of diseases had been asked for by clinicians. The International Classification of Diseases had been started by Farr in 1860 who listed the causes of death. In 1948, the World Health Organization developed this into the International Statistical Classification of diseases, injuries, and causes of death. It was now accepted that the consultant was interested in classification and that W.H.O. must involve the consultant and specialist in his particular field. There was a case for the specialists having their own international association. Meantime, the international classification would be revised on a national basis. Local updating of the classification might be required more frequently than decennially. On an international basis the W.H.O. had been charged with compiling an international code of surgical operations and of other procedures.

(6) Confidentiality

It was agreed that data on return to work was required. There were difficulties because barriers were placed between one government department and another. Information was regarded as being confidential between departments and there was a 50% refusal of permission to divulge information when application was made.

(7) Other points for development

The inclusion of out-patient data was under consideration as either a regional or central activity. It was agreed that statistical analyses and survey work would be facilitated by having members of the public carry a national health service number.

Sub-division of disease into those suffered by males, females and both sexes was requested and it was accepted that this could be undertaken. The expression of cases by percentage would also be considered. Criticism was made of the team activity return whereby the work undertaken by individual consultants was not apparent. While the team return had proved acceptable to some clinicians, it was agreed that both types of return should be provided allowing the individual consultant to retain his identity yet offering group information in addition. There could also be feedback in a form suitable for "firms".

(8) Local and central organisation

It was argued that statistical information should be available from organisations at regional as well as national level. It was suggested that ideally there should be local processing of statistical information and that only material of national interest should be forwarded to the Central Department. However, there was value in retaining certain processing at national level. What was required was local co-operation and interest.

(9) The questionnaire

There had been a 25% response to the questionnaire circulated with the statistical returns. An increased response would be welcomed. There were complaints of lack of consultation yet the questionnaire itself could be regarded as a method of consultation.

In the questionnaire, various characteristics were rated; interest, usefulness and clarity. Of these, usefulness attracted the lowest rating. It appeared on the whole that the data had proved of interest to consultants and it was hoped that with increasing interest greater use might follow. Not many complained that the statistics were not understandable although there were reservations about the use of quartiles. A request was made for the inclusion of all data on one sheet. A longer list of diseases was requested by consultants as were particular diagnoses. Only 10% of those replying said they had discarded the data sheet, and a greater proportion had studied the data closely. On the most useful information to emerge from the data, comments were varied. It was difficult to draw conclusions but consultants appeared to consider there was need for a tailor-made rather than a general return. An accurate appraisal of consultant work was required.

Scottish Hospital Centre
May, 1969.

Design for disability

Meeting at the Scottish Hospital Centre on Friday, 30th May, 1969.

This conference reviewed various aspects of the design of buildings for the specific needs of the disabled and the elderly, and touched on difficulties encountered by the disabled in public and private buildings intended for general use.

MR. E.U.E. ELLIOTT-BINNS took the Chair.

DR. D.N. ROSS, Physician in Charge, Department of Geriatric Medicine, Western Infirmary of Glasgow, spoke of his experience in the care of disabled elderly people and referred particularly to points which might be relevant to the needs of the disabled in general.

Doctors were concerned with the causes of disability, the clinical features which led to a diagnosis, and then the treatment - including preventive measures. The causes of disability in the elderly were mainly accidental - firstly, the hazards of daily living in the home or in the street, which continued to increase the burden on the traumatic, orthopaedic and burns units of surgical divisions, and secondly the cerebro-vascular accidents or "strokes" which formed the biggest single item in the workload of a geriatric department.

The subject of the conference was not concerned with clinical aspects of disabilities, but had considerable bearing on their prevention and treatment. Accidents in the home commonly arose from slippery floors, loose rugs, torn linoleum and carpets, worn stairs and dark corridors and landings. Fire hazards were associated with virtually every form of heating. These included ineffectively guarded open coal fires with sticks or clothes drying nearby, gas fires (which were usually effectively guarded but were liable to explosive dangers), and electric fittings - frequently overloaded and often presenting hazards from trailing flexes and multiple adaptors. The prevention of such accidents ought to be relatively straightforward. Cerebro-vascular accidents were another matter and the increasing difficulties encountered by old people living alone could eventually call for "care and attention" under the terms of Part III of the National Assistance Act, and admission to a residential home or hostel. There were relatively few new homes for this purpose in Scotland, and conversions of old mansion houses (a common stop-gap solution) were seldom ideal. It seemed to Dr. Ross that geriatric units in particular tended to be relegated to old buildings originally intended for other purposes.

In the last few years, however, several new geriatric hospitals had been built and the speaker described in detail one of two new units with which he had been closely concerned. Slides were shown of this new unit (at Drumchapel) which had four 30-bed wards, on the pattern of the well-known "Cameron Unit", and Dr. Ross commented on various features. The nurses' stations were well related to the bed areas, but it was unfortunate that sister's office was somewhat remote. It was a common experience that folding partitions were seldom moved, but it was interesting to note that

the folding partition in the day room at Drumchapel was used to provide a smaller and more intimate room for use in the evenings. Dr. Ross commended the moveable plastic bath which could provide right or left-hand access, and mentioned that although Drumchapel had been designed as a long-stay unit he had been able to use it with some gymnasium and occupational therapy facilities for rehabilitation. In this connection he noted the important fillip to the morale of the patients provided by the hairdressing facilities.

A major and very disturbing problem concerned new units which had not been brought into use for lack of staff. Dr. Ross suggested that there was widespread anxiety over the difficulty of staffing hospitals - expecially at weekends and at night. Improvements in the terms and conditions of employment for nurses would not alone solve difficulties which stemmed in part from the community attitude to the health service. Dr. Ross feared a progressive contraction of hospital facilities, and argued that hospital design, function and management should be geared for intensive use.

The second speaker was MR. DAVID MERCER, a University student who had been injured in an accident at the age of 20, as a result of which he had spent a long period in hospital and had since been confined to a wheelchair. Only within the last few weeks had he begun to walk short distances with the aid of crutches. He was thus able to relate to the life he had led before his accident his experience of life restricted by a severe disability. On discharge from hospital, he had fortunately been able to move from his original upstairs flat to one on the ground floor within the same building, and so could return to the personal contacts and environment which he had known formerly. He regarded this as a matter of great importance, and sympathised with those whose disabilities forced them to move to a house in a new district where they had to form new relationships and virtually start life anew. Mr. Mercer's experience of living at home and working in various buildings at the University and elsewhere emphasised certain practical factors which merited consideration in the design of new buildings.

Stairs were a major obstacle, and the alternatives - ramps and lifts - were space-consuming or expensive. Steep ramps could not be negotiated by self-propelled wheelchairs, and they also presented great difficulties to people on crutches and to the elderly. Lifts were often too small, with doors which were difficult to operate. The height and position of wash-hand basins and drinking wells frequently made them inaccessible, and the stiff action of screw taps with small knobs was a further difficulty. Mr. Mercer considered that "press taps" were more easily operated by those with disabilities affecting their hands or arms. Doors were frequently insufficiently wide and their handles were often difficult to operate. In general, sliding doors were easier than side-hung doors to open from a wheelchair. Power points were often awkwardly placed. (It was not sufficiently appreciated that furniture near a power point could make it totally inaccessible to somebody in a wheel-chair). Wheelchair users regularly found that tables were too low for their knees.

Those whose disabilities permitted them to negotiate stairs needed hand-rails on both sides. (The good hand going up was on the other side coming down). The springs in door closers were frequently too powerful for disabled people to manage - doors on telephone boxes were a good example of this.

The individual problems of disabled persons needed specific discussion, and Mr. Mercer knew from first-hand experience the implications of quite small features of the built environment. He emphasised that the provision of special parking space convenient for disabled drivers and the detailed design of public buildings could make all the difference to the range of employment open to disabled persons.

MR. SELWYN GOLDSMITH, the author of a major work in this field entitled "Designing for the Disabled"*, started by stressing that social, financial and psychological factors were as important to the disabled as the design of their environment; the crucial problems were intangible.

The evidence amassed at Norwich during a study of housing for the disabled which ended in November, 1968, had not supported initial presumptions that physical surroundings were a dominant influence on the disabled. Handicapped people were often to be found in completely unsuitable accommodation but they overcame difficulties in a quite remarkable way. It was noticeable that the rehousing of disabled people in more suitable accommodation failed to compensate for the loss of their social contacts. The policies of local authorities on housing the disabled varied considerably.

Mr. Goldsmith had studied the approach to the special problems of the disabled in a number of countries in Scandinavia and Northern Europe. In Sweden it was a common practice in the big cities to design a proportion of ground floor apartments specially for wheelchairs; at Gothenburg, however, they had taken the view that all housing should be potentially suitable for handicapped people so that no one unit would be identified with disability. Collective housing in Denmark was mostly designed to be potentially suitable for the disabled, but in practice not more than one third were so allocated in any one block. (It was noticeable incidentally that lifts limited social contacts; a lift serving only three or four flats - thus reducing horizontal travel distances - restricted the number of casual meetings with other residents.) The different approaches to housing the disabled represented by these housing programmes had not been fully evaluated.

At Arnhem a special village had been built to house 400 handicapped people, and financed by the proceeds of a television appeal. This community had proved to be a very considerable success, which perhaps justified a re-examination of the widely held belief in the merit of handicapped people being integrated into the community at large rather than living in sheltered enclaves. At Arnhem people lived in individual bed-sitting rooms, sharing extensive communal facilities including restaurants and shops, and there was special staff training accommodation. (It had been found that people working in the village needed training to cope with the physical, emotional and other problems of the handicapped.) The significant feature of this village was that it housed severely disabled people who needed assistance. In England these would normally be housed in an institution. The village was carefully landscaped on a hilly site (unusual in Holland), and residents moved about the village in electric wheelchairs.

In England it was frequently the case that organisations caring for the disabled were not able to build accommodation specially for the purpose, and took the more economical alternative of converting an existing country house. The attractions of a house in its own grounds were self-evident but the compromises associated with conversions seldom led to

* Goldsmith, Selwyn. Designing for the disabled, 2nd edition.

ideal solutions. In many ways success was more a function of social atmosphere than physical design, but there was no doubt that the environment of residential homes did not encourage people to live individual private lives enriched by personal eccentricities.

Bishop Herbert House in Norwich was a local authority home for handicapped people commissioned in 1960, and had ten single, and ten double rooms with a centre courtyard. Following hospital practice the rooms were planned with free-standing beds giving access on both sides; in the event this proved unnecessary and beds were placed in corners of rooms even though this resulted in an inconvenient relationship to such items as switches and shelves. Experience showed that the need for security for belongings had not been adequately recognised, and personal storage space in bedrooms was insufficient. It could now be seen that greater separation of living and communal areas would be an advantage, and it was interesting to note that odd little sitting corners were more popular than the main sitting room. The younger people tended to focus their social activities on the workroom.

Turning to public buildings, normally designed for people with two legs, Mr. Goldsmith pointed out that those confined to wheelchairs required certain special facilities which must be recognised, such as seating in theatres and cinemas, convenient parking arrangements, and accessible cloakroom facilities. In order to be effective, facilities available to the disabled must be identified and known to them. This could be achieved by various means including special guide books and signposts, and Mr. Goldsmith referred to a pilot scheme carried out at Norwich where a special symbol had been designed denoting all categories of disability. This had been featured on special signposts indicating a wide range of facilities accessible to the disabled.

It was necessary for the public to recognise that handicapped people were not just like everybody else, and the case for undifferentiated integration was open to question. Physical arrangements were only a means to an end and there was a danger that the emphasis on physical and medical factors could lead to the neglect of very important social and psychological aspects. As with other people, the disabled needed a choice of options to develop their own potential.

MR. P.H. SPENCE, a partner in a firm of architects, Messrs. Rogerson and Spence, had been concerned with the needs of the disabled as a result of commissions from the British Red Cross and Glasgow Corporation. His work had included new hostels and alterations for the young disabled and accommodation for the elderly, and had involved study visits to Denmark and Sweden. Mr. Spence showed slides of these buildings and commented on the co-operation of a local authority which had built ramps in nearby shops to give access to disabled people.

Following these commissions the British Red Cross had financed a study of the working environment for the disabled, with a view to producing a practical working guide which would be complementary to the work of Selwyn Goldsmith. Mr. Spence then gave an illustrated review of buildings visited during the course of this study in several countries in Western Europe. To start with, attention was focussed on schools where the full impact of disability was first felt. Mr. Spence showed slides of a nursery school and a school for epileptics in Milan where precautions had been taken to minimise injury from falls against radiators, coathooks etc.; and then passed to the various kinds of

establishment catering for disabled adults. These included assessment and training centres in Denmark and Sweden, an orthopaedic hospital in Heidelberg, built to a very high standard and which demonstrated the importance of avoiding an unduly clinical atmosphere, and a rehabilitation centre in Mansfield.

Buildings regularly used by the disabled had to be capable of withstanding hard treatment and Mr. Spence suggested that too much emphasis on reducing initial capital costs could lead to an unwelcome level of expense on maintenance. Projects should be based on a realistic allowance for capital costs of building, equipment and landscaping and for maintenance costs, and the lessons tearned from one project applied to the next.

Great stress was laid on the importance of full integration of buildings for the disabled with the landscape and with the life of the community. Good landscaping, i.e. treatment of the space around buildings, was of the greatest importance to those with a limited range of travel and Mr. Spence regarded links with the life of the community at large as essential. Workshops for the disabled were eminently desirable, but were usually financed on a small scale and it was a challenge to one's ingenuity to overcome this limitation. In particular, the storage accommodation for workshops was frequently under-estimated. Finally, Mr. Spence illustrated with slides the domestic character which had been sought in building hostels for the Thistle Foundation in Edinburgh.

MR. J.H. PENTON, a partner with Messrs. Dennis E. Pugh Associates, architects, had designed a number of buildings during the last six years for the Spastics Society. Some of these were intended for daily or less frequent visiting, others for full-time residents.

Three full-time residencies near Colchester housed from 24 to 50 severely disabled spastics; in general, it had been found that smaller groups produced better communities. A problem with this kind of establishment was the risk of introspection and severance from the surrounding neighbourhood. Mr. Penton then gave a review illustrated by slides of a number of commissions carried out by his firm.

Wakes Hall, Colne, was an example of a country house which had been modified to accommodate 19 spastics and a small workshop, and extended to accommodate a further 28 residents and enlarged workshops. Both enclosed and open-sided courtyards had been created to suit the needs of largely chairbound residents.

The Oakwood Centre at Kelvedon had been completed in 1965 at a cost of £4:13:6 per square foot. This further education centre for 24 heavily handicapped spastics had been planned so that the lounge formed a buffer between the public and private areas, with the communal and tutorial rooms near the entrance. The building had been designed to give an easy transition from inside to outside spaces, with paved courtyards which now contained mature planting.

The Drummond Centre at Feering near Colchester, completed in 1968, comprised a residence for 50 heavily disabled spastics with workshops and staff quarters. The need for economy had led to the development of a compact plan which none-the-less distinguished clearly between residential, workshop and social areas. It had been possible to link this project with adjacent local authority old people's bungalows which helped to integrate the Centre into the neighbourhood.

Designing buildings for the disabled presented an interesting problem of scale. For example, the large doors asserted an oversize scale, which had been relieved by careful attention to the modelling of the cladding. An interesting "moat" detail around the perimeter of the building had solved several problems simultaneously - floor and external ground levels were the same without the usual difficulty with the damp-proof course, and the "moat" and low railing prevented wheelchairs coming dangerously near to open windows. The workshops were designed to create an industrial atmosphere, with fair-faced blocks, exposed pipework and structure, etc., contrasting strongly with the residence. Details had to be considered from the point of view of chairbound residents, e.g. glazing bars and crash rails positioned so as not to interfere with the view from a wheelchair, and special coathook stands designed to be accessible from wheelchairs without occupying an unduly large area.

The kitchen was planned with properly related facilities - work-top, sink, work-top, cooker, work-top - with good manoeuvering space and plenty of knee room. A low level sliding mixing shelf incorporated a hole for a pudding basin. Melamine faced surfaces had not proved sufficiently heatproof; at the Drummond Centre, copper had been used.

However wide the doors, collisions were inevitable, so steel door-frames had been used. All doors had viewing panels, and were fitted with lever handles and full-width D-handles and low level crash rails. Lavatories were fitted with grip handles and alarms. Quarter-turn taps had proved more convenient for spastics than push-taps; on this point Mr. Penton differed from Mr. Mercer.

Corridors were just wide enough for two wheelchairs to pass, with bays at each pair of bedroom doors. These bays were effective functionally in reducing the risk of collisions as residents came out of their bedrooms, and strong colour and clerestory lighting at the reveals had helped visually to reduce the length of the corridor. Fitted carpets were restricted to the lounge. The building was fortunately located amidst lush vegetation and trees, and careful landscaping embraced the adjacent church and churchyard.

In conclusion, Mr. Penton commended the works of Andrew Rennie (published by Cornell University Press) and of Selwyn Goldsmith (see page 6.2) which reviewed very thoroughly the ergonomics of designing for the disabled, but suggested that the factors affecting planning decisions were less well covered. He advocated relating elements of a plan in terms of journey time rather than distance. More study was needed of the factors which determine the quality of life necessarily contained largely within a residential centre.

DISCUSSION

The discussion was opened by DR. H.E. SEILER, Honorary Secretary of the Edinburgh Committee for the Co-ordination of Services for the Disabled. He urged that accidents should be foreseen and prevented by appropriate design measures. He drew attention to the limitations imposed on disabled people by buildings and facilities which were inaccessible to them, e.g. an otherwise appropriate recreation might be ruled out by difficulties of access. Dr. Seiler noted that a pilot scheme of signposts indicating facilities available to the disabled was being carried out in Leith and asked whether there was any feedback from the experiment at Norwich. He was interested by the balance of psychological and

physical factors in the solution of problems facing the disabled and asked about the effect on disabled persons' (normal) children of living in sheltered communities. He welcomed this opportunity for discussion of these complex issues by diverse disciplines.

Eighteen members of the conference took part in the discussion and the following were the principal points to emerge:-

(1) The disabled and society

There were arguments for sheltered communities on the one hand and complete integration of the disabled into society on the other. Clearly the needs of individuals varied even within particular kinds of disability, but it should be recognised that there was an empathy between those with different kinds of handicap. This should be fostered so that people who needed and welcomed help could benefit from their independence. A proportion of the elderly and the disabled undoubtedly welcomed the stimulus of integration with society, but there were those also who appreciated the peace of segregated communities. There was a need for a proper evaluation of sheltered communities.

(2) Disability and the public

It was suggested that much depended upon disability being accepted by the public without comment. However, although normality might be related to general acceptability, it was argued that while the disabled could be accepted philosophically as normal they could not be treated physically as normal because they needed wheelchairs, sticks, glasses, special entrances, etc. These special needs required practical measures.

(3) Statutory bodies

Accommodation for the elderly and the disabled varied very widely, and there was a strong case for some co-ordination of provision by local authorities. It was noted that the middle-aged were often too old or too young for existing facilities; their needs merited more attention.

It was not necessary to travel abroad to see worthwhile achievements in the provision of facilities for the disabled; it was stated, for example, that in this country the Scottish Education Department was doing a great deal for mentally deficient children.

(4) Location and height of accommodation

Local authority homes tended to be on peripheral and relatively cheap sites and were built with due regard for economy. Centrally situated sites were expensive, and full utilisation implied high buildings, with considerable cost implications. An important cost factor in high buildings for the disabled in town centres was the provision of fully effective means of escape - lifts and staircases.

(5) Building design

Effective functional design stemmed from fully considered briefs and it was suggested that the Scottish Home and Health Department should reinforce the sociological and psychological advice available to

architects engaged on projects in this field. Finance was constantly a problem, but the opinion was stated, based on substantial experience, that it was still possible to provide reasonable facilities to a good standard.

(6) Detail

It was suggested that successive generations were coming to expect higher standards of facilities, but it was recognised that funds would seldom stretch to such features as "magic eye" doors. Questions were raised relating to automatic doors, tap design, the design of lighting and light switches, ventilation and window design and heating, and the point was made (not, it should be said, by the author) that "Designing for the Disabled" treated these matters very thoroughly.

A slide showing a protective barrier around a radiator in a children's unit led to the comment that the need for any particular provision should be questioned; in this case was the barrier required because of the high temperature of the radiator or to prevent collision and injury?

It was desirable to avoid oddities such as the special lavatories for the disabled at Abbotsinch Airport which were some 300 yards from the main building.

A plea was made for facilities, particularly in rehabilitation units, to be comparable to those in people's own homes so as to simplify the process of readjustment. More than lip service should be paid to the need to base detailed design on sound ergonomic studies. It was pointed out that some devices intended to prevent accidents themselves constituted a hazard, in particular to elderly people; it was said, for example, that cooker guards were not generally liked by old people for this reason.

Rocker light switches were advocated as being easy to operate, but were also criticised for being too easy to operate by accidental contact.

Colour could make a useful contribution both to the interior effect in general and to the practical use of buildings by means of colour coding of items such as radiators (which could become recognisable "hot spots"), doors, etc.

(7) Storage

There were comments about storage provision both for personal belongings in bedrooms of residencies and for materials and work in progress in workshops. It was easy to criticise apparently inadequate provision and find fault with the design brief, but it was suggested that storage created further demand and that it was necessary somehow to strike a reasonable mean and accept that it would not be adequate for every case.

(8) Conclusions

Both psychological and physical factors contributed towards the well-being of the disabled and the elderly. The design of buildings could make all the difference to the ability of the disabled to find

employment and entertainment. Sport and recreation could be encouraged by the special activities of organisations such as the Scottish Paraplegic Association, but it was suggested that more "consumer testing" was needed to establish an overall picture. It was important, however, not to measure success by numbers - evaluation techniques should be qualitative rather than quantitative and would have to surmount the difficulty of assessing intangible factors.

It was suggested that a professional Disability Institute should be established to co-ordinate the efforts of the many people and organisations presently concerned with the care of the disabled and to initiate the further studies required to clarify their needs.

Scottish Hospital Centre
May, 1969.

Detail design defects

Meeting at the Scottish Hospital Centre on Friday, 26th September, 1969.

Following an illustrated account of a study of detailed design defects in hospitals, this conference discussed many examples of faults, relatively trivial in themselves, which occasion disproportionate inconvenience and hazard, and suggested ways in which some faults could be obviated.

DR. A.A. CAMERON took the Chair.

The theme of this conference was the subject of a report by Mr. John Guest, an architect at the Wessex Regional Hospital Board, who had carried out a study of detailed design defects in hospitals partly resulting from a suggestion made during a discussion at the Scottish Hospital Centre in 1967. Mr. Guest's discourse was illustrated by a large number of slides, some taken by himself, and others borrowed from a variety of sources. All the detailed design defects illustrated had caused, and would continue to cause, frustration or even hazard to those involved in their use or maintenance until considerable sums of money were spent in rectifying them. It was the object of the conference to identify avoidable defects and discuss what measures could be taken to prevent them recurring.

Much valuable reference information had been published but remained unused on bookshelves. Details of design could be of great significance and much expense was incurred putting right mistakes which could have been avoided. Most of the examples of difficulties which would be discussed could be attributed to a lack of co-ordination or co-operation in one or more of the following fields:-

(1) Briefing and planning

(2) Construction, materials and equipment

(3) The commissioning and use of the building

(4) Workmanship

It was necessary to make a realistic appraisal of the relationship between capital outlay and the cost incurred in maintenance of materials and equipment over the economic life of a building. Mr. Guest said that the cost of building a hospital was equalled in three years by the total running and maintenance costs, including staff salaries. Any effort at the planning and briefing stage towards a more efficient building would help to improve this relationship.

Reference was made to the Scottish Home and Health Department's memorandum "The importance of detail" which listed defects observed in recent hospital projects together with appropriate recommendations. Although produced some years previously, this memorandum still offered a useful check-list. Mr. Guest also referred to his own report "Damage in hospitals" some of which was relevant to the present discussion.

The first examples of defects shown to the conference concerned storage. The results of insufficient thought about storage requirements could be widely seen in corridors and cupboards in hospitals. Other examples of insufficient forethought included windows and light fittings whose maintenance required scaffolding, W.C. compartments which offered inadequate access to collapsed patients, an autoclave with insufficient working space, and cupboards over sinks which impeded access to the sink and the operation of the taps.

Examples of lack of co-ordination abounded, both in design, construction and equipment - a memorable case being the "Please ring and wait" notice devoid of a bell. Access to services was frequently open to criticism. Slides were shown of a linen room from which linen had to be removed in order to reach a service duct, and of cleaning eyes placed on the underside of drainpipes in a ceiling void so that when opened, they discharged on to the head of the maintenance engineer. There were other examples of exposed pipes and conduits which presented a cleaning problem; they would have been better concealed, provided adequate maintenance access was assured. The cleaning of light fittings and the replacing of lamps frequently caused difficulties; fittings were sometimes placed so as to give unwanted light - as when a corridor light shone through a fanlight and disturbed patients at night.

Mr. Guest showed a series of slides illustrating shortcomings in ergonomic design. These included sinks and washbasins placed too low and shelves placed too high for convenient access. A bath which was conveniently low for the patient was awkward for the attendant nurse; Mr. Guest suggested that a higher bath with steps was the solution. There were examples of inaccessible high-level opening windows, and of potentially dangerous low-level ones opening outwards at considerable heights above ground level.

Glazing in external windows and in partitions frequently presented problems. Access for maintenance of blinds sandwiched in double-glazing was sometimes ill-considered. In many cases glass was used inappropriately, being vulnerable to damage or presenting undesirable views. (In this connection it should be noted that some so-called 'obscure' glass offered an inadequate degree of screening).
Mr. Guest criticised examples of false economy leading to excessive maintenance costs, such as external painted softwood and unprotected felt on flat roofs.

The control of mechanical and electrical equipment, both fixed and portable, was sometimes unduly difficult. Examples ranged from

lifts with confusing control panels to patients' handsets which required two-handed operation. The protection of hospitals against damage by mobile equipment was a perennial problem; it was more practical, and in the long run cheaper, to protect equipment and design out potentially damaging features than to attempt to render the building damage proof. The risk of damage should be considered outside as well as inside buildings. A picture was shown of stanchions supporting an ambulance canopy which had had to be painted with white stripes because ambulances had regularly reversed into them.

The eighty slides shown by Mr. Guest illustrated the range of defects which were encountered regularly in hospitals. It was important for members of project planning teams to work together so as to benefit from experience and avoid the repetition of mistakes.

DISCUSSION

Opening the general discussion, DR. CAMERON commented on hazards he had encountered in numerous hospital buildings. He was particularly critical of fully glazed doors and partitions with no mark or other device to draw attention to the existence of the glass. Some of the defects which confronted staff and patients in hospitals were of a technical nature but in many cases they appeared to be unnecessary and simple to avoid. Sharp corners and edges on furniture, for example, constituted an altogether unnecessary hazard.

The discussion which then developed, included contributions from doctors, nurses and administrators, and architects, engineers and quantity surveyors. The discussion concentrated on the following principal themes:-

(1) Briefing

It was recognised that many design faults occurred in hospital buildings through insufficient knowledge of functional requirements at the briefing stage of a project. It was all too easy to state particular requirements without fully considering general implications. There was a need for better briefing techniques and for well informed and co-ordinated design teams.

An understanding of the problems of the various members of the design team could only be assured by good communication. The medium for communication should be carefully considered; not all members would find the standard formal orthographic presentation of material easy to understand. Use of three-dimensional models and full-scale "mock-ups" could be helpful. Each member of the team could benefit by reading about, discussing and understanding some of the technicalities

involved in the work of other team members. This knowledge would enable him to understand more fully his place in the team and increase his ability to contribute his expertise. Co-ordinated team work was not easy; it required perception and imagination and an ability to understand people whose training and temperament differed widely.

(2) Guide material

A considerable quantity of guide material had been published, some good and some not so good. Project planning teams should know the field and make discriminating use of existing material. There was no foolproof method of ensuring that available information reached all who needed it, but it was disappointing to see examples of unsatisfactory design when good solutions had already been published.

(3) Change

Ideas and techniques, and their resultant environmental and equipment requirements were always changing. Some activities had a reasonably consistent rate of change and allowance for this could be written into the brief. There were dangers in designing too precisely for specific current practices, particularly those associated with individuals.

(4) Quality of design and execution

Many of the examples of defects quoted at the conference reflected a poor level of design and workmanship found in all building types, not just in hospitals. Technical design competence demanded time and experience and a willingness on the part of architects, engineers and others involved in the design process to check and improve on past performance. Workmanship was, to a considerable extent, affected by supervision, and it was unrealistic, for example, to expect one clerk of works to spot every fault in a £1 million project. His problems were intensified where there was inadequate liaison at the drawing stage between architect and engineer.

(5) Building materials and equipment

The cost of maintaining hospital buildings was considerable. The choice of materials and equipment was often more dependent on the cost allowance for a particular building than on the expected maintenance cost over the economic life of the building.

(6) Maintenance and damage

Maintenance was required in all parts of a building, its services and equipment, and it was important that all these elements should be easily accessible and where necessary

provided with sufficient walk-ways to prevent damage to other surfaces. The lack of accessibility was noted particularly in relation to roofs and roof spaces, and lighting fittings.

Much of the maintenance required in corridors and service areas arose from damage from unprotected and badly driven mobile equipment. The purchase of equipment without protective buffers was a false economy. Ideally all equipment should be protected and the routes to be taken by the more lethal items, such as electric trucks and tenders, should be designed to withstand hard use. It was argued that properly buffered equipment enabled money saved on guard rails to be invested in better finishes. Most damage to walls occurred at a height of 3' 3" (1 metre) or below, and if protection proved necessary, it should extend to doors (including edges and frames) as well as other surfaces. Doors should not be provided unless required for privacy, security or safety. Corridors less than 7' 0" (2.1 metres) or preferably 8' 0" (2.4 metres) wide were inadvisable and unnecessary bends and corners were to be avoided.

Careful thought should be given to the detailing of materials, equipment and engineering services in order to prevent the collection of dust in otherwise clean surroundings. Dust ledges should be avoided where possible, or at least be within easy reach of cleaners. Many dust and dirt traps came from the bad detailing of junctions between materials or between equipment and wall finishes.

Inadequate maintenance space for fixed equipment could often be attributed to insufficient information about the requirements of the equipment being available at the design stage of the building. Early selection of such fixed equipment helped to avoid problems in use.

(7) Standardisation

It was suggested that the use of standard design solutions to certain functional requirements could eliminate unnecessary and irritating defects, but this would only be true for fully studied solutions. Standards would only be as good as the research carried out to formulate them. There appeared to be room for more detailed information particularly on equipment and its use which affected the function of wards and departments.

It was also suggested that the application of standardisation to building techniques by the use of industrialised building methods and the progressive refinement of successive buildings in a big programme could eliminate many shortcomings in detailed design. Serious doubts were, however, expressed as to whether any existing industrialised systems could meet the

complex requirements of hospital building. It was suggested that these techniques were more appropriate to housing and schools where there was greater repetition of simpler elements in larger programmes.

Scottish Hospital Centre
December, 1969.

Laundries and the long-stay patient

Meeting at the Scottish Hospital Centre on Friday, 19th December, 1969.

The provision of a satisfactory laundry service for long-stay patients poses particular problems. This conference reviewed the levels of service encountered at present in many hospitals and their laundries and highlighted the laundering requirements of patients' clothing in long-stay hospitals. Deficiencies existing in many situations were discussed and the need for close co-operation and the establishment of high standards in the planning of a service were emphasised.

PROVOST J.G. ROBB took the Chair.

DR. W.A.J. FARNDALE, Principal Lecturer in Hospital Administration, City of Westminster College, London, in introducing the subject, noted that although some patients were able to champion their own cause or to look after themselves, the long-stay patient was usually not so articulate and was often so mentally and physically ill and disabled that he did not rightly know what was best for him.

Two problems existed in the provision of clothing and laundering for this type of patient:- (i) The provision of the right type of clothing for male patients, female patients, children, for the physically and mentally disabled and especially for those patients who were incontinent and (ii) the provision of a suitable laundry service for laundering the under-clothing, night-wear and day-wear of patients.

More attention needed to be given by authorities to the provision of more suitable clothing for long-stay patients and the associated laundering problems. Hospitals had not caught up with modern styles and fashions of women's clothing and there still remained a few institutions where the clothing worn by men was shrunk and dishevelled. This particularly applied to some clothing for the mentally defective, where the hospital laundering arrangements were not suited to the cleaning of the suits or jackets which had been provided. A little more thought given to patients' needs for a good laundry service would pay handsome dividends in improving their appearance, personal comfort and also their morale and health. This was largely a management problem and depended for its solution on more investigation and research, more money and staff, and better arrangements made by hospital authorities in conjunction with the clothing and laundry industries.

In the Platt Report of 1959,* it was suggested that some children were very sensitive about the kind of clothes they had to wear in hospital and any clothing provided by the hospital should be as attractive and well fitting as possible. It was also suggested that the experiment of allowing children to wear their own clothes in hospital should be investigated.

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* Ministry of Health. Central health services council. The welfare of children in hospital: report of the committee: /chairman: Sir Harry Platt/. London, H.M.S.O., 1959.

In buying patients' clothing, durability, appearance, fireproofing and choice to patients should be borne in mind. Strong, cheap and durable articles which were attractive and of good appearance could now be made in bulk for hospital use and could be purchased in chain stores. Hard wearing material which could stand up to frequent laundering was available in attractive ranges and styles. On the supply of clothing there should always be some degree of personal choice to the patient and inability to pay should not limit the wide choice of clothing available to those who had to accept hospital clothing. It was essential that clothing should not be institutional in appearance. Personal issues should be made to each patient on the ward and there should be choice as to colour and design.

In many hospitals for the mentally ill, patients were encouraged to buy their own clothing and this served as a form of rehabilitation and provided a continuing link with reality and independence. It was desirable that each long-stay hospital should aim to provide a clothing shop in the hospital where patients with the assistance of the appropriate staff could buy clothes for themselves. The aim of every long-stay hospital would then be to do away with their large stocks of clothing with an institutional appearance and encourage patients to buy their own from shops set up in the hospital by commercial concerns specialising in the provision of patients' clothing. As more and more patients were earning money in industrial therapy units or working outside the hospital they could often afford to buy such clothing in which they could be encouraged to take a pride. It should be the staff rather than the patient who were recognised because of their uniform or name badges and it should be the patients who retained their individual identity by their own personal wear. There needed to be a complete psychological change in the pattern - staff uniform should be standardised while patients should be given a choice. The cost of processing an undue variety of clothing was higher than bulk laundering of the type generally in use at present but against this there had to be set the effect on patients - improvements to their health, morale and sense of independence.

Scales of issue of outdoor clothing should not be too rigid and should be varied for individual patients as appropriate to their level of nursing dependency. For long-stay patients confined to their beds consideration had to be given to the maintenance of the fire-proof quality of their clothing even after repeated washing. Certain B.S.I. standards had been laid down for durably proofed clothing against fire and initial purchase should be dictated by these safety standards.

Although working groups could look into types of material and prepare specifications of the materials to be used for patients' clothing, national specifications for the design of patients' clothing were not desirable. The best possible expert advice from laundry and textile research associations and industry should be obtained by central departments and this information should be disseminated to the appropriate hospital officers concerned with purchase and laundering.

A survey carried out by the Disabled Living Activities Group of the Central Council for Disabled had found that the greatest laundry problems were found in hospitals where laundries had been converted to mass production. There had been a large increase in the number of items to be laundered but improvements in equipment and facilities and in the design of garments had not kept pace with this change.

Production methods which were cheapest and most hygienic to meet the requirements expected of hospital laundries were not always the best for the clothing. Most common complaints reported of laundry damage were in connection with shrinkage, colour fastness and tearing. Complaints that some items had lost their shape in the laundering were usually due to the fact that the fabric was unsuitable for the processes applied. Some of the clothing needed to be dry-cleaned rather than washed, and not all hospital laundries were equipped with dry-cleaning plant and could not afford to send this clothing out to a commercial body. In certain areas the availability of dry cleaning service at hospital level was encouraging hospitals to purchase a better quality suit and also increasing the amount of personal clothing being worn by patients in hospital. Although it was cheaper to wash a garment rather than dry-clean, this was a false economy in view of the much shorter life of the washed garments. Dr. Farndale pointed out that arising from his second study on hospital laundering services, there was evidence of a considerable degree of under-laundering of patients' clothing. This sometimes arose due to the misconception that an economy was resulting or due to lack of sufficient staff and the real test was for hospital authorities to keep a comparative check on the number of articles being sent for laundering by each ward or department.

Dr. Farndale considered that the ideal system was that, where possible, patients should buy their own clothing, be provided with adequate storage space and with a personal laundry service. For others, who were dependent on the hospital, a complete set of individual clothing on a personal basis should be provided. It was appreciated that it would be easier to provide a personal laundry service for long-stay patients who were not incontinent and that it would be more costly and difficult to provide a personal laundry service for incontinent patients although even this was not an insuperable problem if staff and money were available.

Communications were all important particularly between officers at laundry and hospital level. Too often the hospital contacts with the laundry were reserved for complaints and the laundry service in turn needed to adopt a more progressive policy towards customer relations. This difficulty had been particularly accentuated by the present trend towards group and area laundries. It would benefit hospital laundries if a senior member of their staff was nominated to serve as a public relations officer whose duty it would be to investigate complaints and maintain good relations between the laundry and the hospitals served. The appointment of a "clothing co-ordinator" to bring together the work of the Linen Room, Sewing Room and Laundry in providing a service to the wards had proved of great benefit in at least one hospital group.

Good laundry management was essential in providing an effective service. A W.H.O. report had recently stated that practical laundry experience should be a secondary consideration in the selection of management personnel for laundry services. The most essential qualification was administrative ability and it had been suggested that better results would follow from selecting a candidate with management ability and teaching him laundry practice than from appointing or promoting a practical laundry man and hoping to teach him management. Equally important was the installation of good equipment coupled with a regular and adequate maintenance service. Too much laundry equipment was still manually controlled and this resulted in excessive use of labour, water, steam and power and prolonged cycles which in turn caused reduced output and excessive fabric wear. Adequate finance both for maintenance and capital costs had to be provided for hospital laundries. For too long it had been traditional that the long-

stay patient should be treated on the cheap. Whereas the cost of laundering in a general hospital averaged at least £1 per patient per week the laundry cost in the psychiatric hospitals averaged only 10/- a week. The long-stay hospitals ought to be spending more on laundering to provide a better service to their patients. Value for money was always essential and Dr. Farndale considered that in order to make the best use of the money available, as in industry, the services of economists should be utilised.

Although some 450 small laundries had been closed since the inception of the National Health Service this had not always been to the benefit of the patient whose personal clothing could often be adequately dealt with locally using small modern machines. An overall regional plan was required for the provision and laundering of patients' clothing; a good case could be made out in some areas, e.g. Bedford County, for the decentralisation of these services and the results of a survey undertaken on long-stay hospitals had confirmed the view that many complaints arose because laundry work was not carried out locally.

All hospitals, including those for long-stay patients, should be equipped with launderettes for use by patients who might wish to wash their own clothing, and in addition wards should be provided with spin dryers with ironing and finishing rooms adjacent. Charitable organisations might well give equal priority to the provision of ward washing machines as to the provision of television and wireless. The development of a launderette type of service where patients and staff would be able to wash their personal laundry would combine therapeutic activity and independence with a degree of cost saving which would provide a valuable facility for some patients in long-stay hospitals.

Although mechanisation had improved production in the hospital laundry service, the introduction of more incentive bonus schemes would further increase productivity. The resultant additional capacity for laundry work or alternatively the run-down in the labour force could be used to provide a personal laundry service for patients. Although laundries had traditionally paid attention to bulk linen work for the wards, to nurses' personal laundry and uniforms and to staff needs, insufficient attention had been paid by laundries and administrators to patients' personal laundry. This might be largely because the bulk ward work had swamped the laundries to such an extent that they had had to concentrate on a quick turn round of laundry work for wards and theatres. It was now necessary for this trend to be reversed. If the principle was accepted that the needs of the patient in hospital always came first, some degree of priority had to be given to personal clothing issues and personal laundry services on as good a basis as that provided for hospital staff from the hospital laundry or by contract. In conclusion, Dr. Farndale noted that a good laundry service for wards was vital to the hospital. Staff laundry needs were well provided for; patients' laundry needs should receive equal priority in an imaginative and sensible manner.

MR. K.W. WILSON, Regional Engineer, Western Regional Hospital Board, considered that for a hospital to be effective it must be supported by efficient ancillary services of which the laundry was only one element. Although at the inception of the National Health Service the majority of hospitals had their own laundries, since then many of the smaller units had closed and the service had been provided from more economically run larger units. With this process it was interesting to note that the user demand in hospitals had increased by approximately 40%. In 1959 there were 49 laundries in the Western Region producing some 58 million

articles per annum at a cost of 2.6d per article. In 1969 the number of laundries had been reduced to 35 producing some 80 million articles at a cost of 3.13d per article. During this 10 year period staff had increased by 5½%, articles processed by 37%, the number of hours worked decreased by 16½% and the number of articles processed per operator week increased by 30%. The increase in articles processed per operator hour had accordingly been 56%. Although the additional number of beds served in 1969 was very small compared with 10 years previous there had been a substantial increase in user demand. In the Western Region, therefore, with approximately 36,000 beds, 80 million articles on average were processed per annum which equalled 1.53 million articles per week, equivalent to 43 articles per bed per week. This last figure was well below the national norm.

It was evident in the Western Region that laundry capacity was restricting growth in demand although some beds had a much higher demand than the norm quoted above. It was pointed out, however, that although norms were useful as a general guide to give an indication of laundry demand in the early stages of planning, the engineer for actual design required more factual information on number, classification and weight of articles to be processed. Allowance must also be made for increase in demand.

As with many other aspects of the Health Service, the provision of hospital laundries was subjected to a financial appraisal and inevitably the question of permitting commercial laundries to provide the service would be raised. For the year ending March 1969 in the Western Region, the cost per article was 3.13d representing £1,040,000 per annum of which 75% was attributable to staff wages. The average cost for commercial laundries was 10d per article and this for the Western Region equalled £2,980,000 per annum to which a cost for preconditioning foul/infected linen had to be added. The savings were represented by a figure of £1,950,000 - a financial advantage in providing a hospital service of 65%.

Mr. Wilson noted that Building Note No.25 gave broad guide lines as to the planning of laundries. Consideration must be given to site characteristics to enable an economical solution to be found. It was always desirable that these should be fully assessed so as to limit additional works, and also, to ensure maximum efficiency for the proposed laundry process, they should be carefully evaluated from a work-study viewpoint. Consideration might be given to locating the laundry on an off-hospital central services site where staff recruitment did not give rise to any difficulties. As it was essential that laundries should operate at maximum efficiency, for which they should be designed, the availability of labour was of paramount importance in enabling the laundry to work preferably on a 64-hour week basis. When it was suggested that laundries should be placed on the sites of long-stay hospitals, opinions were usually expressed that they should be designed to absorb some patient labour. If such labour were used, this would undoubtedly reduce the output of the laundry and consequently put up the capital expenditure beyond the advocated cost limits. In the planning stages there must be full consideration of the capacity at which the laundry would be required to operate and the possibilities of extension in view of increased demands in the future must be assessed.

Although few laundries had been built on the principle, Hospital Building Note No.25 advocated the use of the 'barrier' system, the purpose of which was to reduce the spread of airborne infection from the soiled section to the clean end of the laundry. To reduce this

probability of airborne infection, it was necessary for all foul linen to be pre-sluiced at hospital level. The current thinking in the draft revised Building Note was to abandon this principle for soiled linen but to retain it for infected (including foul) linen. The draft also recommended that all "foul" linen should be classified as "infected" and passed through a time-temperature process to kill the bacteria. If all infected linen was to be processed in the same way, it was essential that there should be standardisation of linen which was likely to become infected. If this did not take place, large numbers of articles would undoubtedly be ruined. The alternative to standardisation of this category of linen was for classification and size sorting to be undertaken at ward level. In the case of patients who had their own clothing in hospital, as this was of a personal nature, particular care must be taken in its processing.

Although originally designed to provide a service for the requirements of the whole Western Region, the regional dry-cleaning unit, operating at maximum capacity, was meeting only half the potential demand. It was currently processing 335,000 articles per annum at a cost of 8.5d per lb. of work. For hospitals for the mentally disordered (15,000 beds) approximately 18.5 articles per bed per annum were processed, and for general hospitals (21,000 beds) approximately 2.6 articles per bed per annum were processed giving a regional average of 9.3 articles per bed per annum. Dry-cleaning of many articles did not only prolong the life but gave a better finish and hence improved the sense of wellbeing which was important to the patient. It was noted that long-stay patients could quite usefully be employed in a dry-cleaning unit doing various categories of work such as making wire hangers and arranging for the packing and despatching of garments. There was undoubtedly considerable scope for the development of the dry-cleaning service in the Region particularly to serve the needs of the long-stay patient.

Mr. Wilson considered that it was essential that laundries should be geared to work longer than a 40-hour week. In this connection he noted that it was hoped to build in the Region, when finance was available, a new laundry which would process 200,000 articles on a 64-hour working week. Further centralisation of services was being investigated, particularly with a view to providing a central service area for certain hospitals which would provide laundry and maintenance facilities, bulk stores, etc. With the central department, consideration was being given to the prison service providing laundry facilities for part of the Region and it was anticipated that this would be established in a few years.

Experiments were being undertaken in the use of man-made fibres including various grades of terylene and cotton with a view to a reduction in the capital investment on hospital laundries. Although these were comparatively new developments and they would take some time before realisation, Mr. Wilson reiterated his view that there were considerable advantages to be gained by providing laundry services from large central complexes, and if these units were well designed and the help of the user was readily available, an effective laundry service could be provided for all hospitals.

MR. M.M. BULLOCH, Area Laundry Manager, Victoria Hospital, Kirkcaldy, spoke from experience gained from the management of a laundry serving a total of some 2,500 beds. At the outset he stressed the difficulties which could arise due to inadequate communication between various categories of staff both at laundry and hospital level. The destruction of one small item of linen or clothing could produce criticism and ill-feeling out of all proportion to the size and standard of the service being provided. Much of this criticism was indeed levelled at the Laundry Manager, and Mr. Bulloch emphasised the importance of co-operation and communication between various categories of staff concerned with the provision of an efficient laundry service. He noted that many statistics on laundry production were available but it was important to note that many types of disposables were now in common use within the wards and departments of hospitals and this, with an ever increasing demand on laundries, had tended to change the trend in the type of article being sent from hospitals for laundering.

The essentials of a satisfactory laundry service for long-stay patients were a quick return of linen to ensure that at all times linen rooms or wards had sufficient supplies and a comprehensive service that would meet all demands. The first requirement could be met if the laundry was properly managed, staffed and machined. This might seem elementary but even in a new laundry, the manager might be harrassed by shortage of staff, sickness or even by not having the plant which he knew was necessary to give a well finished article at an economical price. As well as the change in the type of articles processed in a hospital laundry in the past decade, the volume of linen had steadily increased and despite the provision of new laundries in certain areas, some hospitals were still restricted in linen usage by limited laundry capacity. Due to the need to relate higher wages to higher productivity, incentive bonus schemes were being introduced and would produce a dramatic improvement in laundry production and costs. Mr. Bulloch noted that the first scheme in Scotland, and the first prepared by a Regional Board team in Britain, had been established in his own laundry and this was now accepted by Unions and Management. This was not a substitute but complementary to the close co-operation which was essential between the Laundry Manager and other hospital staff. The Laundry Manager had to be able to see beyond his immediate problems and not be out of touch with his customers' requirements.

As the needs of the long-stay hospital were different from those of the general hospital, the laundry had to be equipped to handle a wide range of garments. While the Swedish concept of providing standard garments for patients would not find favour in this country, the other extreme of permitting a free-for-all in the range of patient clothing would be equally unacceptable due to the limited facilities normally provided at hospital laundries. It was essential that patients should be informed of the articles of clothing with which the laundry could not cope.

For patients in psychiatric units most personal wear was supplied by the hospital. It was, therefore, essential that a reasonably good quality article which would stand washing or dry-cleaning should be purchased.

The larger size article, rather than an exact fitting, was desirable to offset any shrinkage and to facilitate dressing of the patient. Fasteners and buttons should not be of inferior quality and if there was any doubt as to their suitability for the laundering process, a trial run should be made. It was also highly desirable that sufficient stocks were available to enable an efficient laundry to maintain a regular supply without being badgered and continually pressed by staff at hospital level.

The marking of personal articles of the long-stay patient was of particular importance and Mr. Bulloch considered that each article should be marked with the patient's name, ward and hospital. In his own area geriatric patients were admitted to a unit at the general hospital where, on admission, all personal garments went to the linen room for marking. As such patients might be moved to a second hospital, the name was stitched on to a cotton tag, the ward number stitched on to a second tag attached only by one end to the garment, and the hospital was denoted by the colour of the cotton on that tag. If the patient was transferred, the second hospital replaced the ward tag with one in their own colour.

As far as the interest of the laundry was concerned, the use where appropriate, of bibs and incontinent pads was strongly advocated as this prevented staining of clothing which was particularly difficult and sometimes impossible to remove.

Although it was not always possible even in new laundries to have the specialised machines required, it was desirable that a more flexible approach should be taken to the installation of equipment in a laundry unit. Fabrics and the range of garments for laundering were constantly changing and this should be acknowledged by making funds available to cope with these contingencies as they occurred. If this element of flexibility could be introduced, necessary adaptations could be incorporated as appropriate and this would pay dividends in a very short time. More efficient machines were required which were more economical in the use of water, steam or washing materials and which would give a first-class finish at a high production rate and enable modern fabrics to be handled with the minimum risk of damage. Dry-cleaning machines that would give a service on an area or regional basis should be provided. Mr. Bulloch noted that at present in his area dry-cleaning was sent out to commercial cleaners but if the necessary equipment had been available four times the volume of articles could be laundered for the same revenue expenditure. In addition, there was a large saving to be made on the purchasing of garments as proper care would give most of them a longer life.

In conclusion, Mr. Bulloch suggested that when central laundries were being established to undertake the work previously done by the smaller psychiatric hospital laundries, it might be appropriate to take only the bed linen to the central laundry and make it serve as a linen replacement plant. In such a plant work could be processed quickly and cheaply and a high standard of linen maintained, while at the psychiatric hospital a type of launderette with finishing equipment for easy-tear items and steam finishing equipment for garments might be established. Under this arrangement at the central laundry production rates of 4,000/5,000 articles per operator per week could be achieved against the existing rate of 1,600/1,800 per week. For those concerned with laundries, this production figure might seem over high but the Launderers Research Association were talking of a figure of 4,000 articles per operator per week. If we did not set high standards and targets in our laundry planning, the dream of a satisfactory laundry service would never come true.

MRS. J.M. McCALL, Matron, Cowglen Hospital, Glasgow, noted that although fully automated machines, modern materials, the benefits of work-study and modern management techniques had been available to the hospital service for years, these had been reaped in a rather piecemeal way. Nurses required for their patients an adequate daily supply of clean, bacteriologically safe, ready to use, and well-finished linen, quick despatch from the ward to avoid the accumulation of soiled linen in the ward area and return to the ward on a topping-up basis. There was nothing new in suggesting that the linen room and sewing room should come under the control of the Laundry Manager and this was practised in some areas, the control of stock becoming the responsibility of the Laundry Manager. This administrative arrangement relieved the nursing staff of such non-nursing duties as condemning linen, maintaining linen inventories, ordering replacements, and the organisation and recruitment of sewing room staff. Apart from a supply of ready-to-use linen on the shelves or trolleys with the size of garments colour-coded, facilities for the laundering and cleaning of personal indoor and outdoor clothing were also essential to serve the long-stay hospital. Speaking from the geriatric viewpoint, Mrs. McCall considered that few present-day hospital laundries were geared to meet the special needs of the long-stay hospital. She suggested that the only feasible solution to meet these particular requirements was the installation of dry-cleaning plants in existing laundries either on a group or area basis. The need for quick return of clothing to wards was a strong argument against the setting up of regional dry-cleaning plants.

Laundries and dry-cleaning plant should service both hospitals and patients in the community but at present because the laundries were not equipped to deal with personal washing, this duty fell on the nursing staff and was a task for which they had neither the time nor the proper facilities. For personal washing to be treated in the routine manner at laundries made the life span of such articles very short indeed and, although it could not be justified in terms of nursing time, the ward staff frequently requested washing and drying machines to take over this function at ward level. Theoretically it was possible to insist that clothing and its cleaning was the responsibility of the patient and his relatives. This, however, due to a variety of reasons, including finance, transport and storage was quite impractical. Despite efforts to provide funds locally at Cowglen Hospital, it had been found that the cost of purchasing a dry-cleaning unit for the group laundry was prohibitive. The alternative solution of installing and maintaining spin-dryers and drying cabinets at ward level was very extravagant and indeed would not solve the problem of cleaning suits, dresses and woollens. Having fully examined the financial implications and appreciated that neither scheme was feasible and, as the regional dry-cleaning plant was unable to accept additional work, a service provided locally by a commercial firm had to be utilised. Before being accepted for dry-cleaning, however, all articles had to be dried and faecal stained garments had to be slunged and again dried before being sent for cleaning. Woollens marked with food stains did not clean well and had to be hand washed by the firm; the service provided was on a weekly basis. Certain difficulties were, however, encountered in persuading relatives and patients to use this service and indeed if patients were to wear the type of personal clothing commended to them by the nursing staff, more personal washing could be handled by the group laundry. It was not easy to buy the right type of garment for the elderly and small scale buying of clothing was inappropriate. Although Dr. Farndale in his recent article "Provision and laundering of patients' clothing" (British hospital journal and social service review, Nov.7, 1969, p.2093), suggested that there

should be close liaison with the manufacturer and the Laundry Manager, Mrs. McCall considered that the nurse also had a considerable contribution to make on the question of design and fabric of patients' clothing. It should be possible to organise on a contract basis a changing choice of suitably designed garments, the majority of which would be washable. In spite of prior detailed discussion regarding the type of clothing required, dress shows with retailers were not satisfactory, and in any case few patients were able to make a very effective choice.

Much clothing was donated to the hospital but very little of this was suitable for patient use. It was, however, a useful source of revenue with which washable slacks and crimplene could be bought. Crimplene was made up by the hospital Guild ladies, the range of choice changing each month so that a wide variety was possible. This clothing, which was sent to the Group Laundry, was chosen by the individual patients and their names were marked on them. The expense of buying and cleaning enough clothing was a very big problem, particularly for the young long-term men, and it was not unknown for staff to meet the cost of dry-cleaning; this was discouraged. Although hospital authorities were permitted to buy personal clothing for patients, Mrs. McCall considered it to be rather theoretical as no additional finance was available for this purpose. In order to provide an efficient clothing and cleaning service, the hospital service required:-

(1) Money for clothing.

(2) Dry-cleaning plants in each group or area offering a 24-hour return service.

(3) Enough staff in laundries to finish personal washing.

(4) Staff sorting bays in laundries to sort and separate patients' personal washing.

(5) Central contracting for clothing for the elderly and the disabled.

It was fallacious to pretend that clothing and cleaning were dealt with adequately by relatives and if maximum independence and self-respect were to be encouraged in patients, hospitals had to organise and finance their laundry services accordingly.

MR. D. McINNES, Secretary and Treasurer, Sunnyside Royal Hospital, Montrose, believed that if one had a first-class commercially trained laundry manager, then the administrative problems could be few in number. As an administrator, he believed his main purpose was to ensure that there was the maximum co-operation between the laundry and the hospitals it served, and also between the laundry and the departments which served it. It was of the utmost importance if resources were to be utilised to the maximum that the delivery of soiled linen to the laundry followed a rigid time-table and that there was regular contact with the wards and outside hospitals to ensure this.

In the long-stay hospital, and in particular, the psychiatric hospital, patients' private clothing could create many problems. Care had to be taken that all clothing was properly marked, that relatives did not leave new unmarked clothing with patients without advising ward staff, and that on being discharged from hospital, the clothing was marked in such a way that there was no reference to the hospital on the marking. In Sunnyside Royal Hospital, the transfer system of marking was used and

this had proved reasonably satisfactory although the service from the suppliers had left much to be desired. Whatever system of marking was used, however, it was absolutely essential that it was kept up to date as patients were transferred from ward to ward.

It was the Laundry Manager's practice to visit periodically all the outlying hospitals served by his laundry and in this way new types of uniform or bed clothing could be discussed from the laundry viewpoint and test washing could be arranged to give a reasonable report on the reaction to the normal washing processes. In Mr. McInnes' experience it was just as easy to provide a high standard of colour and good finish at a very realistic cost as it was to produce the dirty white associated with laundries where output was considered the paramount virtue. In long-stay hospitals where incontinence could be expected, the question of foul linen was inseparably linked with the problem of achieving good colour; this problem was not so difficult in the psychiatric hospital where the patient, though possibly incontinent, was still ambulant, and where patients could be studied, and even during a period of sleep could be aroused to avoid bed-wetting or soiling of beds.

Despite the view that, provided certain safeguards were taken, it was quite feasible to transfer all foul linen to hospital laundries without prior sluicing at ward level, it was the opinion of Mr. McInnes' Board that sluicing, to be effective, should be carried out at hospital level and as soon after soiling had taken place as was reasonably possible. If foul linen was left, even over a weekend, the resultant staining became difficult to remove, except by the inordinate use of bleach and a consequent shortening of the life of the linen. By the use of small sluice/extractor machines in different areas of the hospital, staining had been minimised and few articles were now returned for re-washing.

If a laundry was under-equipped or badly maintained, this resulted in overloading of equipment and the end product could not fail to be unsatisfactory. It was important, therefore, that sufficient plant was available and that the engineering and electrical maintenance was first-class and on a planned preventive basis. Even then breakdowns did occur and it was advisable for laundries to carry various items of spare plant which should be maintained in good condition and be available for immediate installation when necessary.

Some hospitals had to be satisfied with a low standard of laundry work and this might be partly due to the fact that there were too few commercially trained managers in the hospital service. This position might improve as the larger central units were organised but size alone did not guarantee success if the management was not sound. It was, therefore, desirable to encourage the acquisition of appropriate professional qualifications by laundry staff at managerial level.

The administration was always preoccupied with costs, and it was in this direction that a competent manager could be a decided asset. The automated washing machines were undoubtedly capable of saving soap, water and steam, and Mr. McInnes noted that as far back as the year 1800 the Directors of his hospital were concerned with the price of soap and were counselling more economy in its use for laundry purposes.

Great pressure was being brought to bear on Boards of Management at present to introduce interim bonus schemes. These fundamentally could only benefit the less efficient laundries since they could only be financed from savings. Where costs were already low and both quality

and production reasonably good, properly work-studied schemes would have to be awaited; in this context the use of patients in the laundries of long-stay hospitals might make such studies difficult. As laundry work was often considered a good form of occupational therapy for some patients, it would be regrettable if this type of activity had to be discontinued.

DISCUSSION

In opening the discussion, MISS D. NORTON, Nursing Officer, Scottish Home and Health Department, said that during her research work on the care of the elderly consideration had been given to the design of clothing for the long-stay patient. It was relatively simple, for example, to redesign a nightgown, previously inflicting pain on the patient, which incorporated features for ease of fitting, durability and ready identification of size. When laundered, however, the nightgown shrank and the colours faded. A study had shown that at any one time two-thirds of the total linen supply in a hospital was in transit and consequently out of commission. There was evidence to suggest that larger stocks were required in hospitals and that careful consideration should be given to the level of storage space provided. Considerable scope existed in hospitals for the greater use of disposable items and indeed there was a strong case for the disposal of all soiled articles.

Launderettes should be provided at ward level in psychiatric hospitals where their use would serve as a valuable part of the patients' therapy. In order to avoid any institutional feeling, patients should be permitted to wear clothing normally accepted in their homes and the standard of laundry service provided should not inhibit this. Although certain laundry facilities might be desirable at most hospitals, it was essential that the main supply should be available on a daily basis.

It was quite possible to have standardisation of design in clothing while at the same time, maintaining the functional concept and avoiding an institutional and identical appearance. Fasteners should certainly be of good quality but experience had shown that personal articles were not always successfully laundered, and the ability of the laundry to cope with zips, buttons, etc. should always be assessed prior to purchase. Although a considerable amount could be done at ward level in the prevention of soiling, partly by more frequent toileting, it was likely that the more widespread introduction of man-made fibres would have a considerable impact on the care of the incontinent patient.

There was no doubt that laundry services in hospitals caused a lot of problems but these had to be considered along with the broader concept of clothing and the effect of other facilities and services provided for the long-stay patient.

In the general discussion views were expressed by nurses, doctors and hospital administrators, by laundry staff, engineers and work-study officers, and by manufacturers of fabrics. The following were the main points to emerge:-

(1) Man-made fibres

Although nurses' uniforms were usually made of man-made fibres and machines were available to deal with them in laundries, there were difficulties relating to static build up and temperature when it

came to using these materials for bed linen. Before these materials were widely introduced into hospitals the nursing and patient reaction had to be fully assessed. Facilities should be made available on the wards however for the washing of drip-dry materials. It was essential that laundries should be aware of changes in requirements in types of material being used at hospital level and it was desirable in planning laundry services that the implications of the wider introduction of such materials as terylene and nylon should be taken into account.

It was suggested that many of the processing problems could be overcome if the qualities of fabrics were more fully assessed. If there was closer liaison with manufacturers to discuss common problems, difficulties of durability, shrinkage, staining and labour cost in cleaning and finish could be very largely overcome. It was evident that the use of man-made fibres in hospitals would increase in the future and although it was necessary for laundries to be equipped to deal with these materials, manufacturers should be made aware of the problems regarding their handling and efforts should be made to keep the complexities of laundering down to a minimum.

(2) Ward linen

Although it was appreciated that some form of standardisation of linen sizes was essential, it was noted that from a recent study in one hospital there were found to be forty-two different sizes of bed sheets in use. This had resulted from standard sizes being adapted to meet the individual requirements of each ward and exemplified the traditional pattern which still existed in many hospitals. It was suggested that no laundry process of any kind should take place at ward level and a means of packing acceptable to nursing staff should be adopted with transport direct to the processing area on a 7-day basis. Segregation of foul linen from soiled must be made by the nurse at ward level since, if articles undergo the wrong process at the laundry, deterioration is inevitable to some extent.

(3) Flexibility

It was emphasised that changing user requirements necessitated considerable flexibility in the laundry services provided. In many instances the laundry manager was appointed long after the planning stages and consequently inherited any deficiencies as well as the advantages in any new system. It was also not uncommon for there to be a substantial increase in certain types of patients in hospital which could make new demands on the service being provided. It was indeed very difficult, if not impossible, to assess the requirements made on a laundry in say five to ten years time and finance should therefore be readily available to cope with these changing needs so that the laundry could be adapted, in terms of equipment and organisation, to meet the new situation.

(4) Dry cleaning

Although it had been suggested that a dry-cleaning plant would answer many problems, it was noted that it was expensive in both processing and labour. It was also pointed out that dry-cleaning had not been refined to the extent of recent developments in conventional wet processes. Financially it would not be possible to install dry-cleaning plants in all hospitals and cost was going to dictate the wider use of central laundry services in order to get maximum return for money. It was claimed that the cost per article

of some large laundries in England was extremely high and if the contract was of sufficient size it was sometimes cheaper to deal with a commercial firm whose prices were, in some instances, very competitive. In general, however, it was felt that this was not the case in Scotland.

It was noted that one large regional dry-cleaning service served 40 hospitals at a cost of 8d. per lb. although in view of pressure of work it could only cope on the basis of a weekly service. There were strict instructions for no foul articles to be delivered for laundering but these were not always followed and the process of sorting and examination had to be undertaken at the laundry. An example was given, on the other hand, of a large new dry-cleaning service which was working at only half capacity.

In the case of some soiled articles it was noted that both dry and wet cleaning were necessary and a strong case could be made out for the use in hospitals of materials which did not require both processes. Lack of dry-cleaning facilities, however, were apparent in many areas and, although it was always possible to enter into contract with a commercial firm, this might prove costly and in some instances inhibited hospital authorities to such an extent that articles which should be dry-cleaned were being washed with a consequent deterioration in the life.

(5) Clothes for the elderly

The difficulty was raised of obtaining, for the elderly, clothes which were not of an institutional type and which could be readily washed. It was suggested that manufacturers had found difficulties in producing materials suitable for the elderly which could be washed and returned within a day. Suits which could be processed in this manner were on the market but they were generally of a lightweight type and not suitable for the older person.

(6) Use of disposables

It was suggested that some of the problems could be overcome by the greater use of disposables made from paper and non-woven man-made fibres; their use also enabled every patient to be issued with individual items. The range of disposable items was wide (particularly for flat work) and included nightgowns, pyjamas, aprons, pillowcases, bed sheets, etc. and could be supplied at the cost of hospital laundering. These were of particular value in the case of the home-bound patient where problems of transporting and disposal of soiled garments existed. Little work in depth, however, had been done by manufacturers in coping with the needs of the long-stay and, in particular, the terminal care patient. As it was likely that manufacturers would increase production in their range of disposable clothing, there should be close consultation with hospital authorities to consider their requirements. It was noted, however, that in some instances, the use of disposable materials affected the morale of the patient and this had to be balanced against the view that, if an article was infected, it was always preferable to dispose of it.

(7) Bagging of linen

It was considered that all infected linen should be sorted at ward level and sent in special disposable polythene bag containers to the central laundry where they could be opened straight into the

processing machine. Different systems for sorting existed in different hospitals but with the use of labels and colours an efficient method could be devised which was essential to the satisfactory processing of material at the laundry.

(8) Labelling

It was noted that certain difficulties existed in the marking and labelling of patients' clothing. The transfer system worked quite well for many articles but was not effective on items made from man-made fibres. Large labels on patients' clothing were not acceptable and in some hospitals it had been found that the school type of name tag was most satisfactory.

(9) Full utilisation

The importance was stressed of using the full potential of laundry installations. Continuous working by shifts produced a more economical return in investment. If the service was maintained at weekends and holidays, substantial reductions could be made in stocks held at ward level - and incidentally in linen losses.

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